PERFECT HEAT.

RD

PART LIST / SERVICE MANUAL

PROFESSIONAL
48", 36" & 30"
***DUAL FUEL* MODELS**

Retain this manual for future reference.

INTRODUCTION

DCS SERVICE MANUAL

This service manual covers Models
DCS - (RD) - (36) (48) - (4) (6) - (GD) (GL) (GG)
DCS - (RD)-304

The DCS Professional Series of Dual Fuel Ranges was designed to provide features tailored to a customer with high expectations. This Service Guide was created with the goal of minimizing customer inconvenience and having any necessary repairs done quickly and correctly. If, in the course of using this manual, you should have any difficulty, or you feel that some important item has been omitted, please let us know with a phone call or Fax.

This manual was created for use by a qualified technician, authorized by the DCS Service Department.

To identify the Model and Serial #, locate and read the appliance rating plate. The rating plate is located on the rear left side of the interior top burner box (remove the top burner grates and bowls), or on the right side of the burner box on some six burner models. In general, our Model numbering logic is as follows;

1 2 3 4

ie. ***DCS-RD-484GG***

1) (**RD**) denotes a Range with electric oven(s) (27"& 24" self-cleaning) and an integral gas cooktop.

2) (**48**)[*47 7/8*] , (**36**)[*35 7/8*] and (**30**)[*29 7/8*] indicates unit nominal Width (in inches)

3) (**4**), or (**6**) indicates # of open top burners

4) (***GG***) indicates a Griddle and Char-Rock Grill, (***GD***) indicates a thermostatically con trolled Griddle section, or (***GL***) indicates a Char-Rock Grill section.

Before servicing the range, it is first important to accurately define the exact details of the com plaint and then assess the cause of the defect. Complete Installation Instructions are included with each appliance and should be consulted to check for proper installation practices. Charges related to Installation are not covered under warranty. Common for a product this large and heavy is damage due to reckless handling by trucking firms, or Installation personnel moving the product into position.

What follows is an overview of DCS warranty provision. Review the warranty policy to determine what is covered under the warranty repair provisions and what will not be covered. Before beginning any work, the proposed service should either be authorized by DCS, or, in the event the work is not covered under warranty, the customer be informed of their responsibility for the repair charges.

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WARRANTY

This warranty covers the following cooktops and ranges:
DCS RD 484 GG, DCS RD 486 GL, DCS RD 486 GD, DCS RD 364 GD, DCS RD 366, DCS RD 364 GL, & DCS RD 304.

LENGTH OF WARRANTY

One (1) Year Full - **Covers the entire product**
Five (5) Years Limited - **Surface burners, Griddle burners, Grill burner, Oven burner**
Ten (10) Years Limited - **Porcelain oven, Porcelain inner door panels**

DCS WILL PAY FOR:

All repair labor and replacement parts, for parts found to be defective, within the warranty period due to materials or workmanship. Service must be provided by Authorized Factory Agent during normal working hours.

DCS WILL NOT PAY FOR:

Installation or start-up
Normal adjustment to burners, gas regulators, etc.
Cleaning of igniters and/or general maintenance
Shipping damage
Service by an unauthorized agency. Damage or repairs due to service by an unauthorized agency or the use of unauthorized parts.
Overtime, weekends, holiday labor rates
Discoloration of the griddle plate
Improper installation, such as: **no regulator, improper hook-up, etc.**
Chipping of porcelain enamel grates

Service visits to:

- Teach you how to use the appliance.
- Correct the installation. (You are responsible for providing electrical wiring, gas installation and other connecting facilities.)
- Reset circuit breakers or replace home fuses.
- Damage caused from accident, abuse, alteration, mis use, incorrect installation or installation not in accordance with local codes.
- Repairs due to other than normal household use.
- Units installed in non-residential applications such as: **day care centers, bed and breakfast centers, churches, nursing homes, restaurants, hotels, schools, etc.**

This warranty applies to appliances used in residential applications; it does not cover their use in commercial situations.This warranty is for products purchased and retained in the 50 states of the U.S.A., the District of Columbia and Canada. This warranty applies even if you should move during the warranty period.

Should the appliance be sold by the original purchaser during the warranty period, the new owner continues to be protected until the expiration date of the original purchaser's warranty period. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

HOW TO OBTAIN SERVICE

For warranty service, contact your local DCS authorized service agency. Provide him with the **Model #, Serial #, gas type and date of installation, and a brief description of the problem**. If you need assistance in locating the authorized service agency in your area, contact your local dealer. He will have a listing of authorized DCS service agents in you area.
We want you to remain a satisfied customer. If a problem does come up that cannot be resolved to your satisfaction, please let us know. Write: **Dynamic Cooking Systems Inc., Customer Service Department, 5800 Skylab Road Huntington Beach, CA 92647. Or call Direct Parts / Customer Service (888) 281-5698 or fax us at (714) 372-7001.**

TROUBLESHOOTING

GENERAL INSTRUCTIONS:

STEP ONE: ISOLATING THE PROBLEM

NOTE: ***Before addressing any specific problem the unit may have, it is advisable to help isolate the nature of the problem by running a general check of the 1) Gas Supply and 2) Electrical Supply. The following procedure will narrow the possibilities and help direct you to the source of the problem. A detailed Troubleshooting section with specific symptoms and likely corrective courses of action follows each sub-assembly Partlist section. Wiring diagrams and schematics are also included to assist in troubleshooting.***

CHECK GAS SUPPLY

First, check to see if the gas has been turned on.

Next, gain access to the regulator by removing the grates over the cooktop burners on the far left hand side of the cooktop. Beneath the grates, towards the rear of the burner box, the regulator is located between the manifold and rear incoming gas line. Check the top of the regulator to see that it is set up for the type of gas supplied to the unit. The cap on top of the regulator indicates whether the unit is set up for NATURAL or L.P. gas.

When the gas supply is on, check the gas pressure with a manometer. The front main open top burner orifice is the most convenient place to check gas pressure. To access the main burner orifice, remove the four (4) screws that hold the burner hanger down and *A)* move aside the burner assembly or *B)* disconnect the igniter wires and remove the entire burner / hanger assembly. Hook up a flexible line to the main burner orifice, turn that burner on... the pressure should read 5.0" W.C. for Natural Gas, and 10.0" W.C. for L.P. Gas. Turn on other burners and check for an excessive drop in pressure. A large drop in pressure indicates a gas supply problem related to installation, not covered by service warranty.

CHECK ELECTRICAL SUPPLY

First, check to see if the electricity has been turned on.

Next, check power to the cord in the back of the range and at the wall receptacle. If power is OK there, the next area to check will be at the service disconnect located behind the valve panel. The Valve Panel can be removed by removing the five (5) screws that hold it in place. Two (2) screws are located at each end of the panel, while one (1) screw (painted Red) behind a Burner Control knob must also be removed before the valve panel can be removed. Once the Valve Panel has been removed, unplug and check for power to the female side of the plug. 220-240V 120 between red /white 120 between black / white 240 between red & black

Check for power at the Terminal Blocks, (Black & Red = Live, White = Neutral)

ORIFICE or PIN SIZE References:

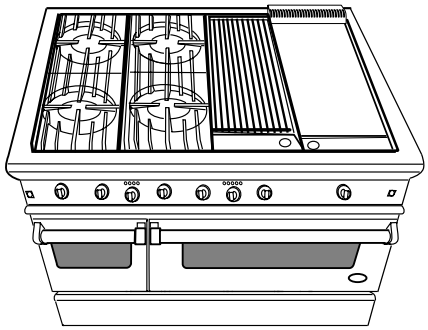
Gas Type	*Incoming Pressure to Regulator*	*Pressure Regulator Supplies*
NATURAL	7.0" to 9.0" W.C.	5.0" W.C.
L.P.	11" to 14.0" W.C.	10.0" W.C.

	Orifice Size Nat. *(DMS)*	***Pin Size*** LP *(DMS)*	***Orifice Size*** LP *(DMS)*
Open Top	51	58	50
Center Simmer	75	79	80
Grill	48	55	55
Griddle	48	55	55
Small Oven	n/a	n/a	n/a
Large Oven	n/a	n/a	n/a

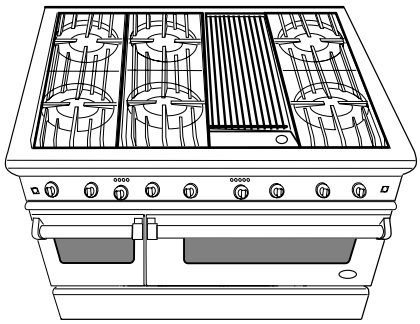
RD MODEL IDENTIFICATION

48" DUAL FUEL RANGE MODELS:

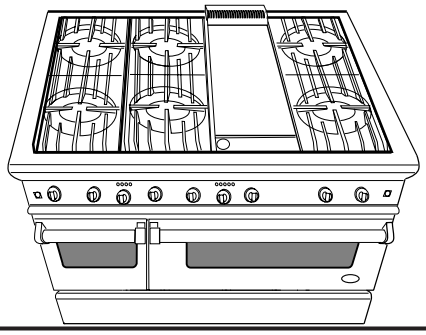
MODEL DCS-RD-484 GG



MODEL DCS-RD-486 GL

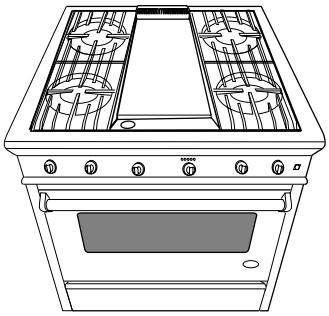


MODEL DCS-RD-486 GD

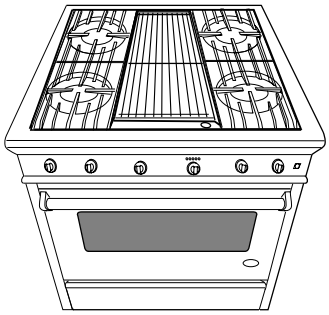


36" DUAL FUEL RANGE MODELS:

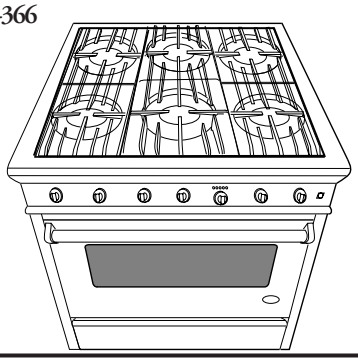
MODEL DCS-RD-364 GD



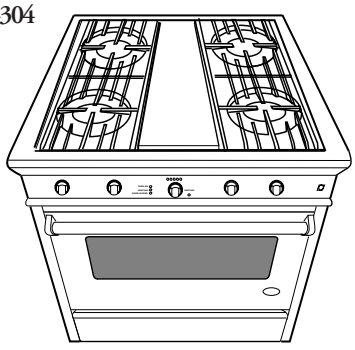
MODEL DCS-RD-364 GL



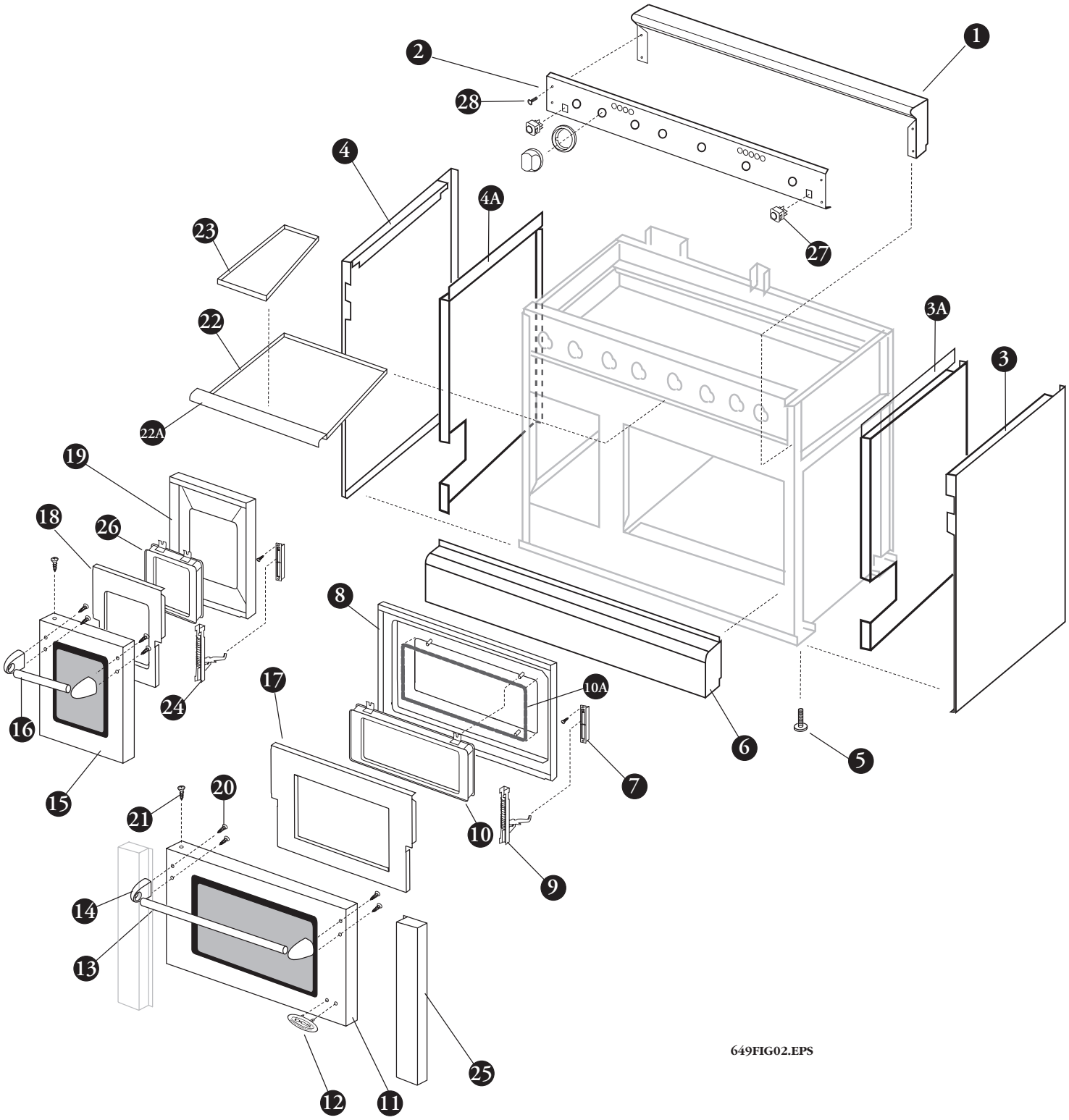
MODEL DCS-RD-366



MODEL DCS-RD-304



OUTER BODY PARTS ASSEMBLY



649FIG02.EPS

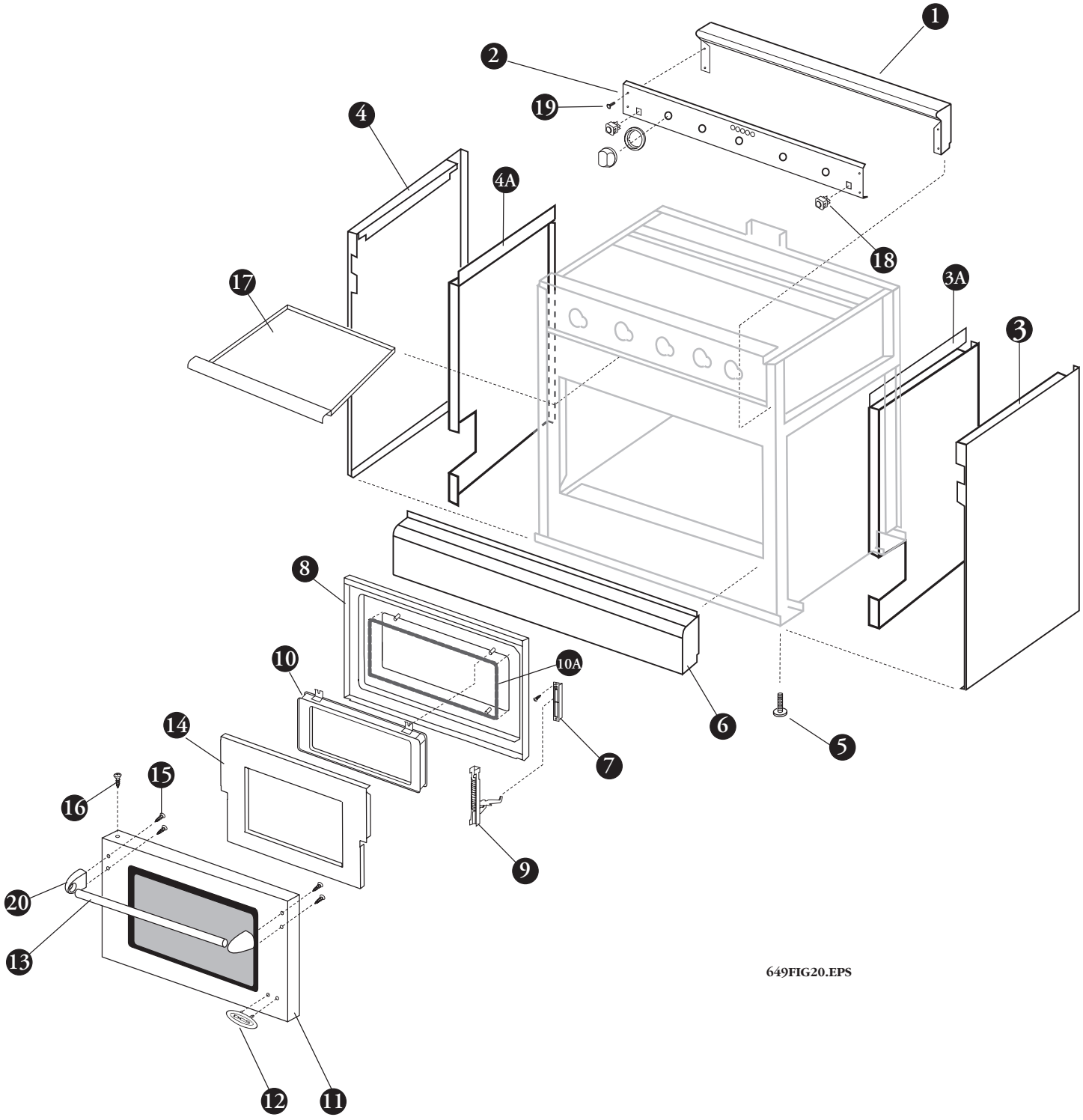
OUTER BODY PARTS LIST

PARTS LIST:

ITEM #	PART #	DESCRIPTION
1	90104-01	RD 48 LANDING LEDGE
	90104-02	***RD 36 LANDING LEDGE***
2	90300-01-PA	RD 484GG VALVE PANEL
	90300-03-PA	***RD 486GD VALVE PANEL***
	90300-02-PA	RD 486GL VALVE PANEL
	90531-01-PA	***RD 366 VALVE PANEL***
	90531-03-PA	RD 364GD VALVE PANEL
	90531-02-PA	***RD 364GL VALVE PANEL***
3	90303-01	RD 48 RIGHT BODY PANEL
	90469-01	***RD 36 RIGHT BODY PANEL***
3A	*90310-01	RD 48 RIGHT SIDE INSUL. RET.
4	***90303-02***	***RD 48 LEFT BODY PANEL***
	90469-02	RD 36 LEFT BODY PANEL
4A	****90310-02***	***RD 48 LEFT SIDE INSUL. RET.***
5	18052-2	LEVELING LEG
6	***90323***	***RD 48 KICK PANEL ASSEMBLY***
	90551	RD 36 KICK PANEL ASSEMBLY
7	***150034-3***	***HINGE RECEPTACLE***
8	***90186-01-PC***	***27" DOOR INSIDE LINER***
9	150034-1	27" OVEN DOOR HINGE
10	***14131***	***WINDOW PACK-27***
10A	14045	WINDOW GASKET-27
11	***90662-01***	***27" Oven Door Panel Assy. (w/ Glass/Tape)***
11A*	90184-05	27” OVEN DOOR ASSEMBLY-Complete
12	***17130-01***	***DCS LOGO -LG-BLACK. (RANGES)***
13	90187-02	27" OVEN DOOR HANDLE
14	***18164-PL***	***DOOR HANDLE ENDCAP***
15A	90662-02	12" Oven Door Panel Assy. (w/ Glass/Tape)
15	***90184-06***	***12” OVEN DOOR ASSEMBLY-Complete***
16	90187-01	12" DOOR HANDLE
17	***91254***	***27" DOOR INSULATION RETAINER (RD 48/36)***
18	90412	12" DOOR INSULATION RETAINER
19	***90403-PC***	***12" DOOR INSIDE PANEL***
20	15001-39	BOLT - DOOR HANDLE
21	***15002-41***	***SCREW - DOOR TOP***
22	90658-02/90658-01	DRIP PAN - 48"
	90658-03	DRIP PAN - 36"
22A	***90624/90623***	***DRIP PAN HANDLE - 48"***
	90625	DRIP PAN HANDLE - 36”
23	30313-3	DRIP PAN LINER (UNDER GRILL/ GRIDDLE ONLY)
24	***150034-2***	***12" OVEN DOOR HINGE***
25	90470-02(R), 90470-01(L)	RD 36 SIDE COVER
26	***14138***	***WINDOW PACK-12” DOOR***
27	16127	LIGHT SWITCH - OVEN
28	15002-41 (4)	FRONT PANEL SCREWS
*	14052	OVEN DOOR GASKET (FRAME)

* ITEMS NOT PICTURED

RD-304 OUTER BODY PARTS ASSEMBLY



RD-304 OUTER BODY PARTS LIST

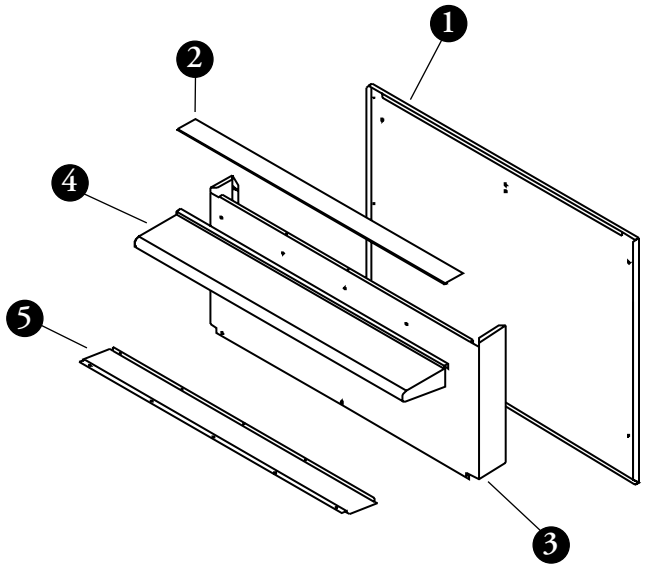
PARTS LIST:

ITEM #	*PART #*	*DESCRIPTION*
1	90104-03	LANDING LEDGE
2	***90440-PA***	***VALVE PANEL***
3	90432-01	RIGHT BODY PANEL
3A	***90431-01***	***RIGHT SIDE INSUL. RET.***
4	90432-02	LEFT BODY PANEL
4A	***90431-02***	***LEFT SIDE INSUL. RET.***
5	18052-2	LEVELING LEG
6	***90758***	***KICK PANEL ASSEMBLY***
7	150034-3	HINGE RECEPTACLE
8	***90766-01-PC***	***DOOR INSIDE LINER***
9	150034-1	OVEN DOOR HINGE
10	***14131***	***WINDOW PACK***
10A	14045	WINDOW GASKET
11	***90765-12***	***Oven Door Panel Assy. (w/ Glass/Tape)***
11A*	90765-02	OVEN DOOR ASSEMBLY-Complete
12	***17130-01***	***DCS LOGO -LG-BLACK. (RANGES)***
13	90187-02	OVEN DOOR HANDLE
14	***90561***	***DOOR INSULATION RETAINER***
15	15001-39	BOLT - DOOR HANDLE
16	***15002-41***	***SCREW - DOOR TOP***
17	90772	DRIP PAN ASSEMBLY
18	***16127***	***LIGHT SWITCH-OVEN***
19	15002-41	FRONT PANEL SCREWS
20	***18164-PL***	***DOOR HANDLE ENDCAP***
*	14052	OVEN DOOR GASKET

* ITEMS NOT PICTURED

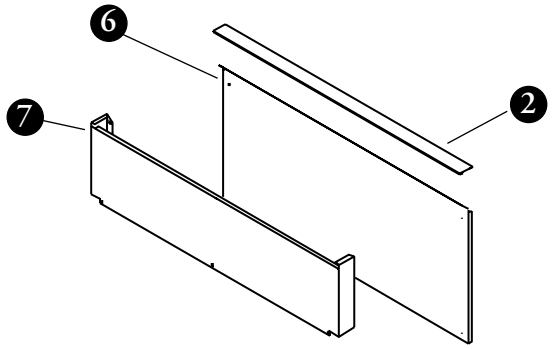
BACK GUARDS ASSEMBLY

22” DUAL FUEL RANGE HIGH SHELF BACKGUARD



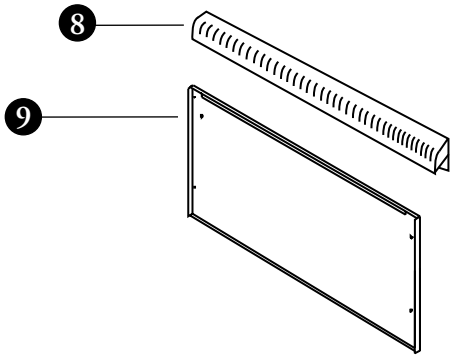
DCS-HSRD-48R
DCS-HSRD-36R
DCS-HSRD-30R

12” DUAL FUEL RANGE LOW BACK BACKGUARD



DCS-LBRD-48R
DCS-LBRD-36R
DCS-LBRD-30R

DUAL FUEL RANGE ISLAND TRIM BACKGUARD



DCS-ITRD-48R
DCS-ITRD-36R
DCS-ITRD-30R

649FIG07.EPS

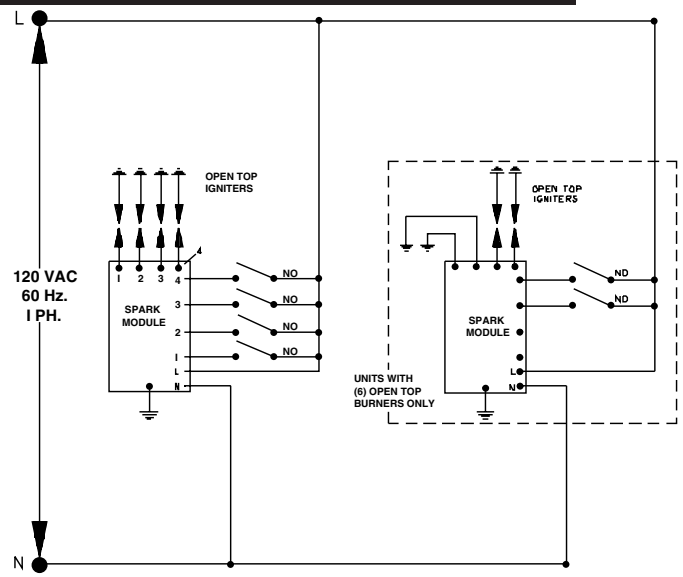
BACK GUARDS ASSEMBLY

PARTS LIST:

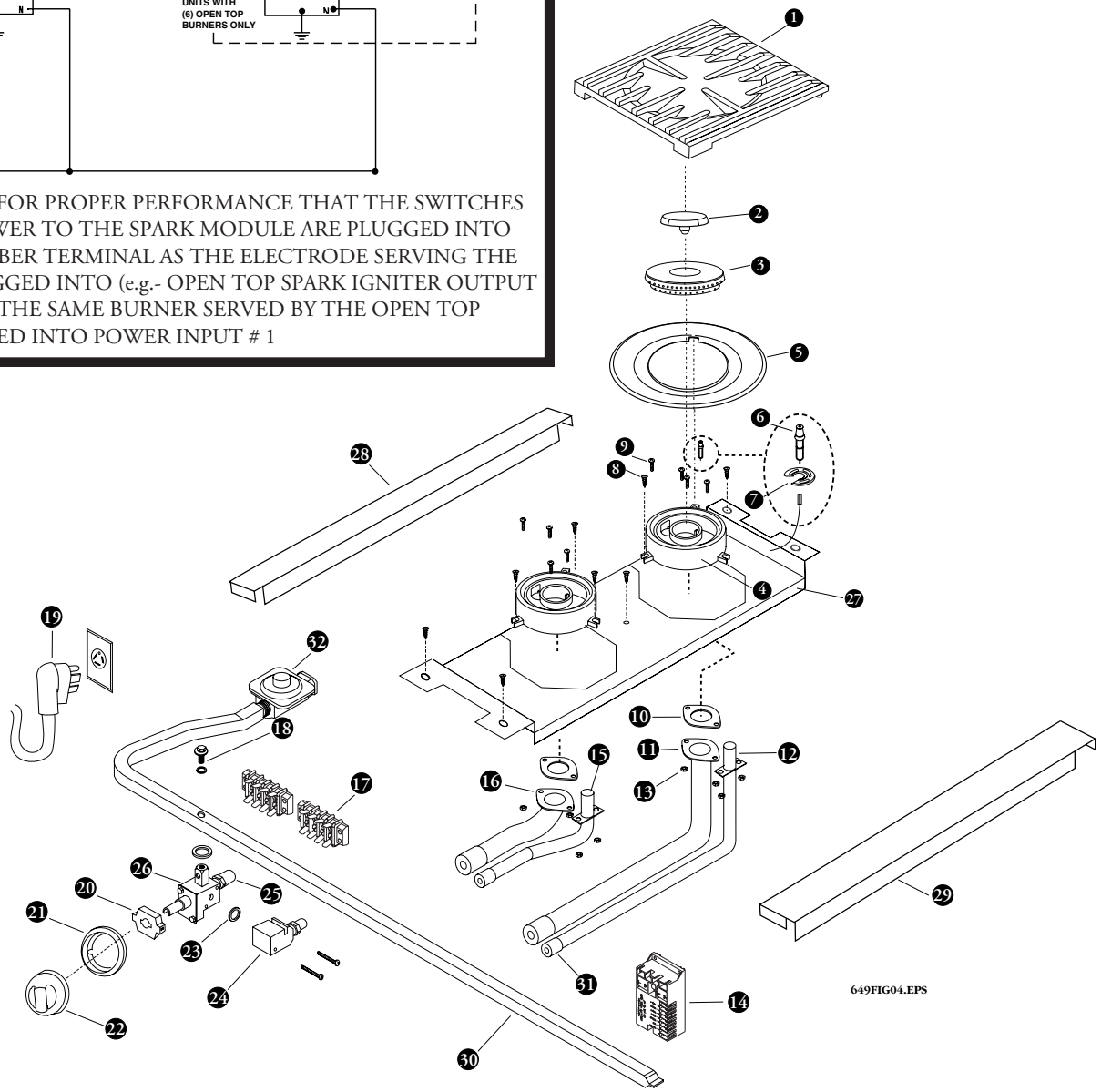
ITEM #	*PART #*	*DESCRIPTION*
1	90089-03	RD 48 HIGH SHELF BACK SHEET
	90089-04	RD 36 HIGH SHELF BACK SHEET
	90089-05	RD 30 HIGH SHELF BACK SHEET
2	90041-03	RD 48 TOP COVER
	90041-04	RD 36 TOP COVER
	90041-05	RD 30 TOP COVER
3	90087-03	RD 48 HIGH SHELF FRONT SHEET
	90087-04	RD 36 HIGH SHELF FRONT SHEET
	90087-02	RD 30 HIGH SHELF FRONT SHEET
4	90240-01	RD 48 HIGH SHELF WELD ASSY.
	90240-02	RD 36 HIGH SHELF WELD ASSY.
	90240-03	RD 30 HIGH SHELF WELD ASSY.
5	90241-01	RD 48 HIGH SHELF BOTTOM ENCLOSURE
	90241-02	RD 36 HIGH SHELF BOTTOM ENCLOSURE
	90241-03	RD 30 HIGH SHELF BOTTOM ENCLOSURE
6	90040-03	RD 48 LOW BACK BACK SHEET
	90040-04	RD 36 LOW BACK BACK SHEET
	90776	RD 30 LOW BACK BACK SHEET
7	90038-03	RD 48 LOW BACK FRONT SHEET
	90038-04	RD 36 LOW BACK FRONT SHEET
	90038-02	RD 30 LOW BACK FRONT SHEET
8	90245-04	RD 48 ISLAND TRIM CAP
	90245-05	RD 36 ISLAND TRIM CAP
	90245-03	RD 30 ISLAND TRIM CAP
9	90248-04	RD 48 ISLAND TRIM BACK SHEET
	90248-05	RD 36 ISLAND TRIM BACK SHEET
	90248-03	RD 30 ISLAND TRIM BACK SHEET

OPEN TOP BURNER ASSEMBLY

ELECTRICAL SCHEMATIC:



*IT IS CRITICAL FOR PROPER PERFORMANCE THAT THE SWITCHES SUPPLYING POWER TO THE SPARK MODULE ARE PLUGGED INTO THE SAME NUMBER TERMINAL AS THE ELECTRODE SERVING THE BURNER IS PLUGGED INTO (e.g.- OPEN TOP SPARK IGNITER OUTPUT #1 MUST BE ON THE SAME BURNER SERVED BY THE OPEN TOP SWITCH PLUGGED INTO POWER INPUT # 1



OPEN TOP BURNER ASSEMBLY

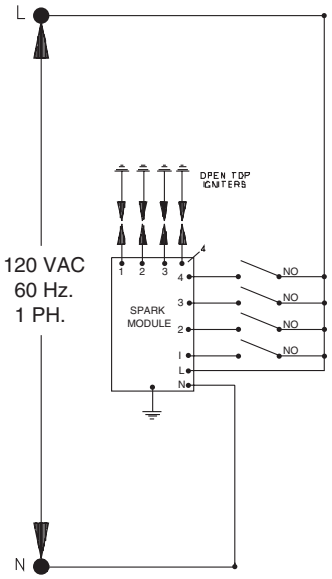
PARTS LIST:

ITEM #	*PART #*	*DESCRIPTION*
1	12112-01	TOP HALF GRATE
2	12131-PC	SIMMER TUBE CAP
3	12139	SIMMER BURNER CAP
4	12138	SIMMER BURNER BASE
5	12105-PC	AERATION BOWL
6	12093	ELECTRODE ASSEMBLY
7	12094	ELECTRODE SPRING CLIP
8	15001-22	BURNER BASE SCREWS
9	15002-26	VENTURI BOLT
10	14000	VENTURI GASKET
11	12113	MAIN VENTURI, REAR
12	90653-02-PL	SIMMER VENTURI, REAR
13	15021-04	VENTURI NUT
14	13236	SPARK MODULE
15	90653-01-PL	SIMMER VENTURI, FRONT
16	12114	MAIN VENTURI, FRONT
17	16006	TERMINAL BLOCK
18	15109	VALVE SCREW / PLUG / WASHER
19	16212	POWER CORD - RANGES
20	13071	SPARK SWITCH / SIMMER, STD. BURNER
21	14006-PL	BEZEL
22	14125	SIMMER BURNER KNOB
23	14124	SIMMER BLOCK O-RING
24	13070	SIMMER BLOCK
	13005-80	SIMMER ORIFICE HOOD, LP GAS
	13005-87	SIMMER ORIFICE HOOD, NATURAL GAS
25	13005-58	ORIFICE HOOD, LP GAS
	13005-51	ORIFICE HOOD, NATURAL GAS
26	13228	MAIN BURNER VALVE
27	90129	BURNER HANGER
28	90085-01	GRATE SUPPORT (3/4" WIDE) (L/R)
29	90084-01	GRATE SUPPORT (1 1/2" WIDE) (CENTER)
30		MANIFOLD ASSEMBLY (Complete w/Valve/Regulator)
	90324	DCS-RD-484GG
	90324-01	DCS-RD-486GL
	90324-02	DCS-RD-486GD
	90324-03	DCS-RD-366
	90324-05	DCS-RD-364GL
	90324-06	DCS-RD-364GD
31	12111	AIR SHUTTER SIMMER
32	13003	REGULATOR

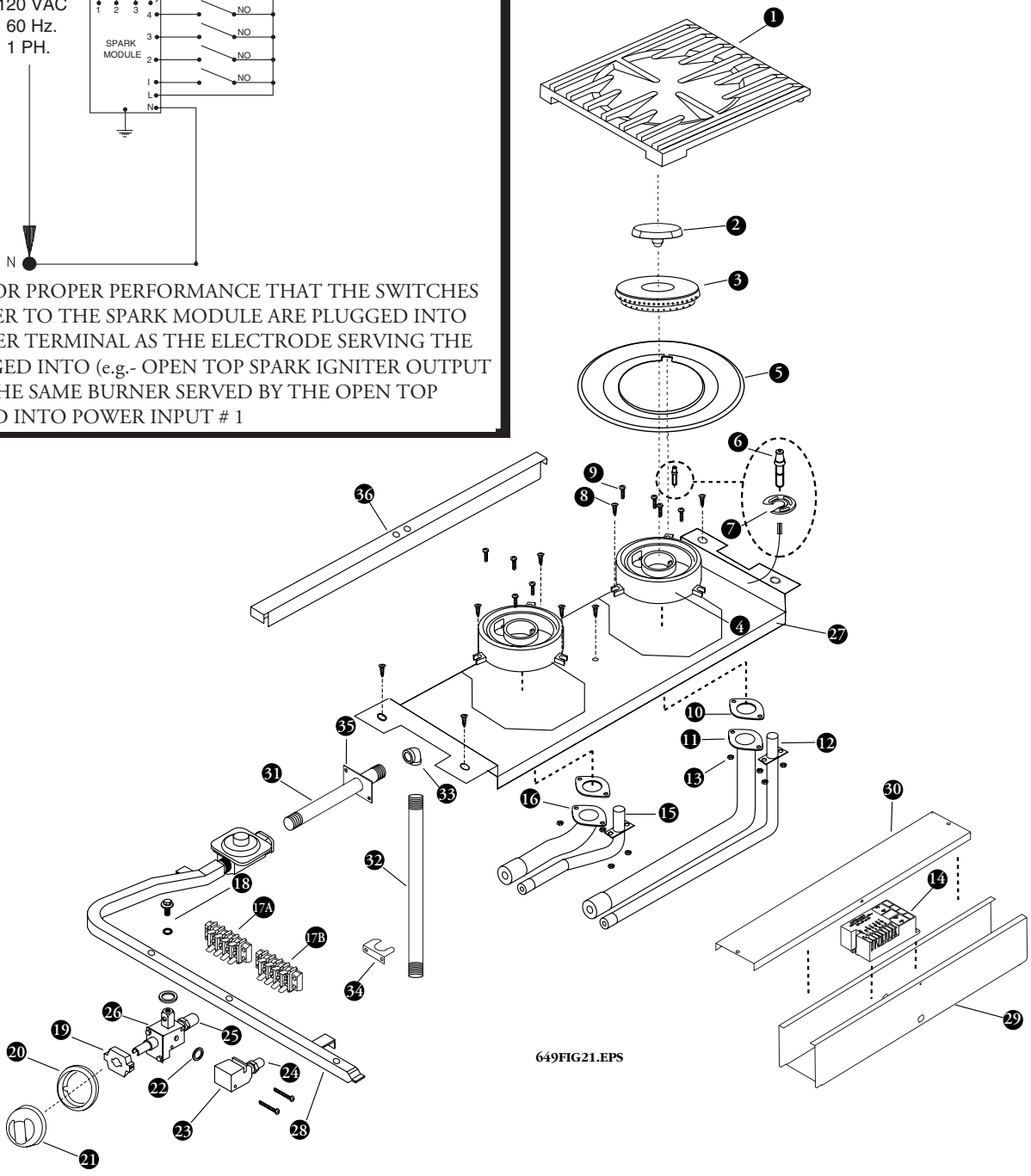
NOTE: Burner Base Assembly Front – 90146-01 (includes item # 2,3,4,6,7,10,11,12)
Burner Base Assembly Rear – 90146-02 (includes item # 2,3,4,6,7,10,11,12,15,16)

RD-304 OPEN TOP BURNER ASSEMBLY

ELECTRICAL SCHEMATIC:



*IT IS CRITICAL FOR PROPER PERFORMANCE THAT THE SWITCHES SUPPLYING POWER TO THE SPARK MODULE ARE PLUGGED INTO THE SAME NUMBER TERMINAL AS THE ELECTRODE SERVING THE BURNER IS PLUGGED INTO (e.g.- OPEN TOP SPARK IGNITER OUTPUT #1 MUST BE ON THE SAME BURNER SERVED BY THE OPEN TOP SWITCH PLUGGED INTO POWER INPUT # 1



649FIG21.EPS

RD-304 OPEN TOP BURNER ASSEMBLY

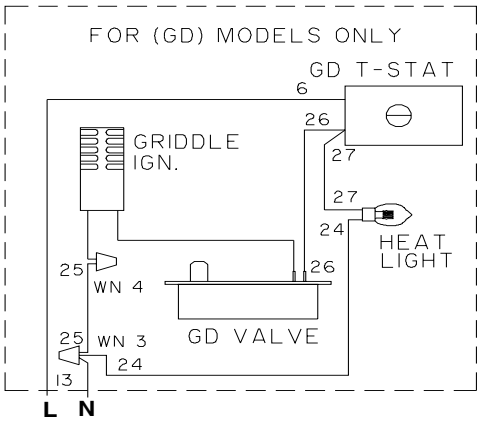
PARTS LIST:

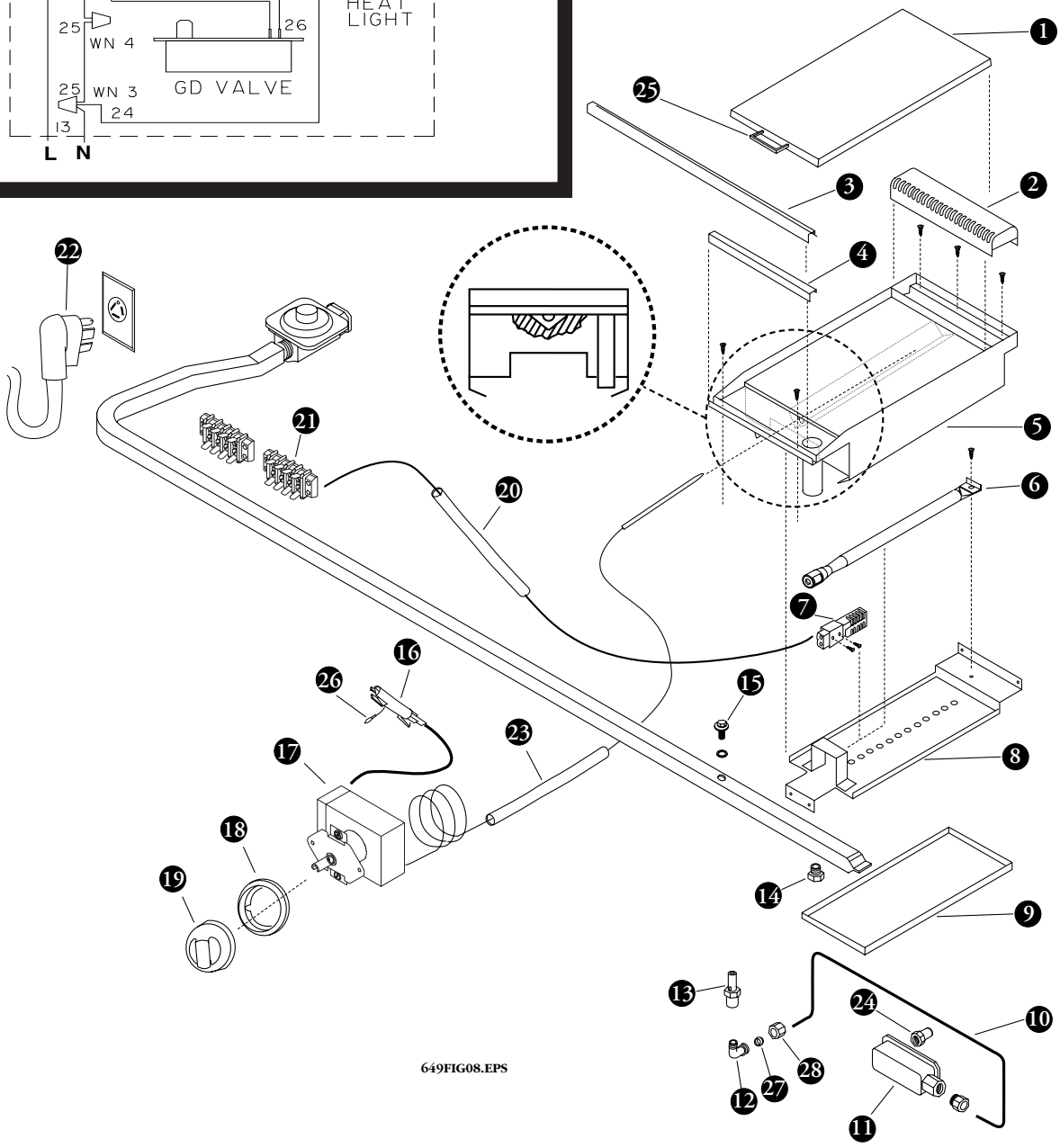
ITEM #	*PART #*	*DESCRIPTION*
1	12112-01	TOP HALF GRATE
2	12131-PC	SIMMER TUBE CAP
3	12139	BURNER CAP
4	12138	BURNER BASE
5	12105-PC	AERATION BOWL
6	12093	ELECTRODE ASSEMBLY
7	12094	ELECTRODE SPRING CLIP
8	15001-22	BURNER BASE SCREWS
9	15002-26	VENTURI BOLT
10	14000	VENTURI GASKET
11	12113	MAIN VENTURI, REAR
12	90653-02-PL	SIMMER VENTURI, REAR W/A
13	15021-04	VENTURI NUT
14	13236	SPARK MODULE
15	90653-01-PL	SIMMER VENTURI, FRONT W/A
16	12114	MAIN VENTURI, FRONT
17A	16006	TERMINAL BLOCK
17B	16006	TERMINAL BLOCK ***W/CENTER JUMPER REMOVED***
18	15109	VALVE SCREW / PLUG / WASHER
19	13071	SPARK SWITCH / SIMMER, STD. BURNER
20	14006-PL	BEZEL
21	14125	SIMMER BURNER KNOB
22	14124	SIMMER BLOCK O-RING
23	13070	SIMMER BLOCK
24	13005-75/79	SIMMER ORIFICE HOOD, NATURAL GAS/LP
25	13005-51/58	MAIN ORIFICE HOOD, NATURAL GAS/LP
26	13228	MAIN VALVE
27	90129	BURNER HANGER
28	90765-42	MANIFOLD ASSEMBLY (Complete w/Valves/Regulator & Intake pipe).
29	90704	AIR DUCT BOTTOM
30	90705	AIR DUCT TOP
31	18018-13	INTAKE PIPE
32	18018-11	PIPE 1/2 NPT
33	18041	1/2 ELBOW FEMALE
34	90566	BRACKET GAS PIPE SPACER
35	90565	BRACKET GAS PIPE RETAINER
36	90085-01	GRATE SUPPORT

LEAK / OPEN TOP TROUBLESHOOTING

PROBLEM AREA:	WHAT TO DO:	USEFUL NOTES:
Customer smells gas at all times	CHECK for **LEAKS** at: A) The two brass elbows coming from the 1/2"NPT pipe between the regulator and manifold B) Along the manifold at every nut/washer point and plug C) At all connection points between tubing and thermal valves at grill and griddle locations.	NOTE: *If using a soap and water solution when checking for leaks, be careful not to get any water on Spark Switches, as doing so will cause a short in the switch.*
Customer smells gas only when Open Top Burners, Large Oven, or Grill are in operation	CHECK for **LEAKS** at: A) The Thermal Valve and connections supplying the Grill, with Grill turned on. B) O-Ring between the Simmer Block and Simmer Valve for all Open Top Burners, with burners on.	
Open Top Burner Doesn't Light	? Is the igniter sparking? The spark should be jumping to the simmer burner cap. A) Make sure that the lead to the electrode is secure, as well as the lead to the Spark Module and that there is power also. B) Spark Switches at control knobs should be checked for power to and coming out from (with knob in "lite" position. If there is power going to, yet not coming out the other side, replace spark switch. C) See Open Top Burner Lighting and "Adjustable Low Setting" sections in the Installation Manual.	NOTE: *It is important that correct # wire be traced from the Spark Switch,to the Spark Module, to the Burner Electrode.*

ELECTRICAL SCHEMATIC:





649FIG08.EPS

GRIDDLE ASSEMBLY

PARTS LIST:

ITEM #	*PART #*	*DESCRIPTION*
1	90253-02	GRIDDLE COVER
2	90582	GRIDDLE FLUE COVER
3	90192-01	GRIDDLE / GRILL FRONT TRIM
4	90195	GRIDDLE FRONT TRIM
5	90133	GRIDDLE PLATE ASSEMBLY
6	12005-1	GRIDDLE BURNER
7	16009-1	IGNITER
8	90141	GRIDDLE BAFFLE
9	30313-3	DRIP PAN LINER
10	90746-04	GRIDDLE TUBING
11	13073	THERMAL VALVE
12	18017	ELBOW ASSEMBLY
13	18166	MANIFOLD ADAPTER
14	18165	PIPE PLUG
15	15109	VALVE SCREW / PLUG / WASHER
16	16046-02	INDICATOR LIGHT
17	13310	GRIDDLE THERMOSTAT
18	14006-PL	BEZEL
19	14129	GRIDDLE THERMOSTAT KNOB
20	16077	FIBER GLASS SLEEVE
21	16006	TERMINAL BLOCK
22	16212	POWER CORD
23	16077	FIBER GLASS SLEEVE
24	13005-48	ORIFICE HOOD-NATURAL GAS (#48 DMS)
	13005-55	[ORIFICE PIN-LP GAS (#55 DMS) *(INTEGRAL TO THERMAL VALVE)*]
25	18204-01	GRIDDLE COVER HANDLE
	15139	GRIDDLE COVER HANDLE SCREW (2)
26	16046-02	INDICATOR LIGHT LENS
27	18077-2	FERRULE 3/8
28	18077-1	COMPRESSION NUT 3/8

GRIDDLE TROUBLESHOOTING

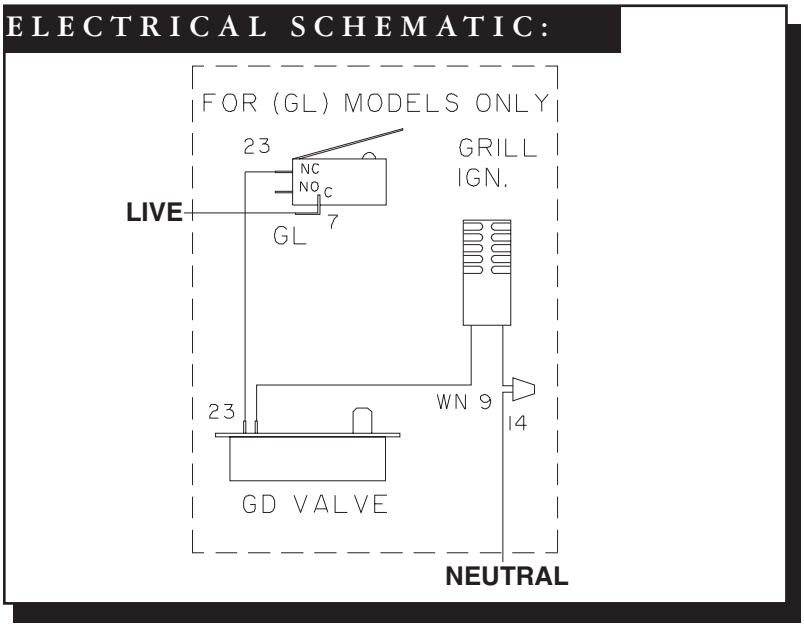
PROBLEM AREA:	WHAT TO DO:	USEFUL NOTES:
Griddle will not operate	<u>CHECK</u> 1) the Electrical / Gas Supply as outlined in the General Instruction section. 2) Remove Griddle plate assembly (fastened by 2 screws in the front and 1 screw in the back, under the flue cover- Visually check for igniter breakage. If igniter is broken, remove / replace 3) Remove Valve Panel (see General instructions and note removal of "Red" screw behind control knob - *not on all units*) ? 4) 120 V supplied to Thermostat from the terminal block ?(live= black) If not, troubleshoot power supply lines, If YES, 5) Disconnect power, Remove wires off Thermostat & check for continuity between Thermostat terminals when Thermostat dial is rotated to the ON. If there is no continuity remove / replace Thermostat. 6) If Thermostat is OK, Remove the wires from the Thermal Valve and check for continuity between the two (2) terminals on the face of the valve. If none, remove / replace. 7) If the Thermal Valve is OK, Remove the wires from the Griddle Igniter and check the igniter leads for continuity. If none, remove / replace igniter. 8) If the Igniter is OK, Check the Neutral Return Wire for continuity to the neutral (white) wire of the power supply cord.	<u>NOTE:</u> ***Be careful not to damage the Capillary when removing the Griddle plate assembly*** <u>NOTE:</u> ***-Ensure at the supply source that the live and neutral wires are not reversed (If they are, this would not be covered under warranty)***
Griddle still will not operate, (Electrically operational - Steps 1-8 OK)	1) Verify Gas supply to the unit. Turn the Gas supply OFF. Loosen tubing supplying gas from the manifold to the Thermal Valve at the Thermal Valve. Quickly turn manual valve On, then Off while an assistant listens closely for the sound of flowing gas at the loosened end of the connection. If gas is not flowing, check the tubing for blockage.	

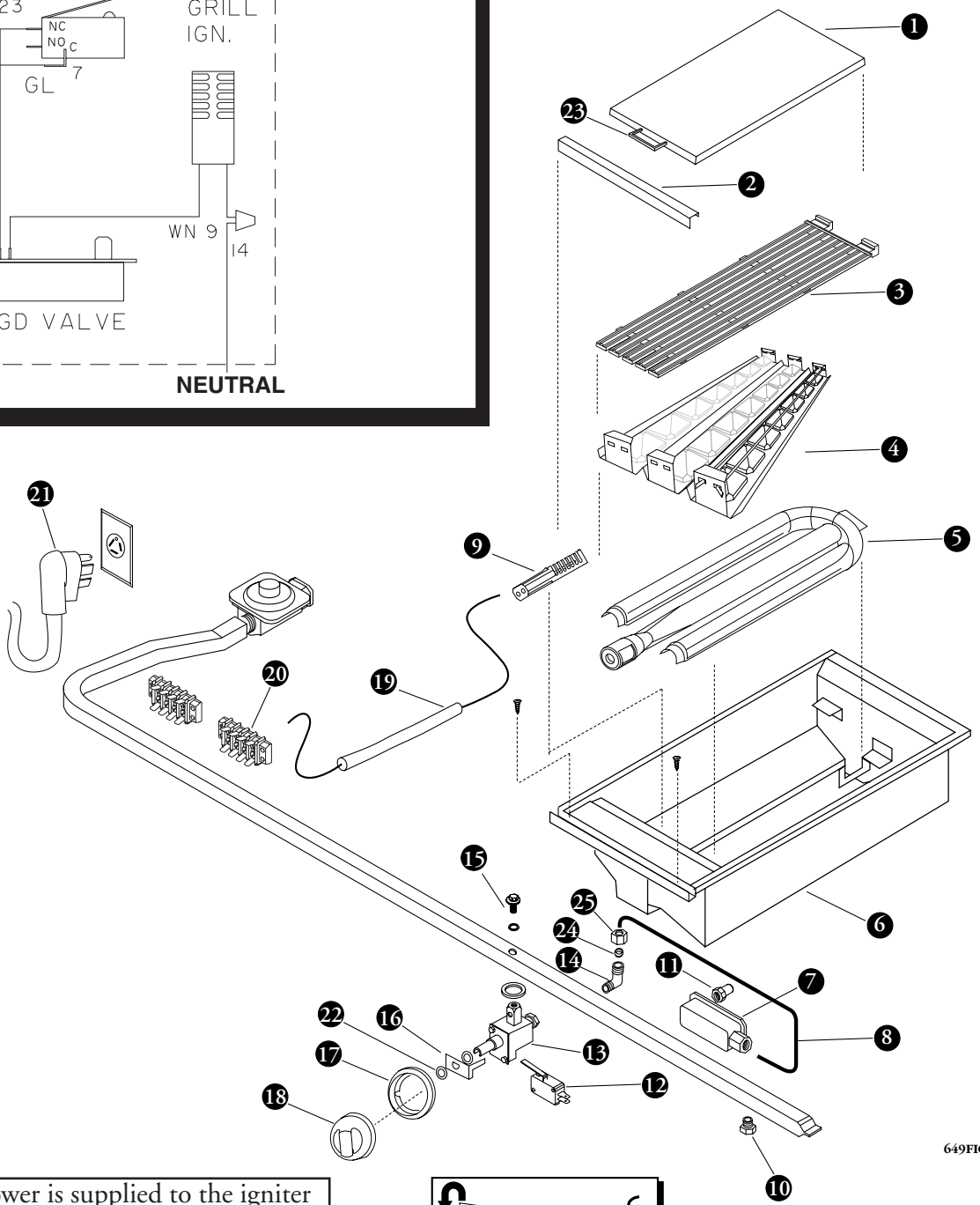
GRIDDLE TROUBLESHOOTING

PROBLEM AREA:	WHAT TO DO:	USEFUL NOTES:
(Cont'd)-**Griddle still will not operate, (Electrically operational Steps 1-8 OK)**	If dirt or other foreign matter is blocking gas flow, then the supply line should be disconnected and the line purged. This procedure is not covered under warranty. 2) If gas is present at the Manual Valve, and Electrical continuity of the valve exists per Step 6)- (previous section), remove and visually check the valve orifice for blockage. If none exists, remove / replace Thermal Valve	
Low Flame / Heat from Griddle Burner	<u>CHECK</u> 1) Gas pressure and supply as outlined in the "General" section. 2) Ensure the orifice hood is not tightened down onto the L.P. jet nested within the Thermal Valve. 3) Adjust the air shutter closed until the flame is yellow, then open slightly until the yellow disappears.	
GRIDDLE CALIBRATION	1) To calibrate the Griddle Thermostat, place a reliable griddle thermometer on the center of the griddle plate. Rotate the thermostat to 350°F. After 3 burner cycles, the griddle plate should have reached equilibrium. 2) *(You'll need a knob with a hole drilled through the center to allow a flat-tipped screwdriver to be inserted through it.)* With the knob in place, insert a thin blade, flat-tipped screwdriver through the knob and nest it into the small slotted screw in the thermostat (it may be necessary to clear the screw of a small amount of sealant) 3) Note the temperature shown on the griddle thermometer, then, while holding the screw still with the screwdriver, rotate the knob to the thermometer temperature. DO NOT TURN THE CALIBRATION SCREW. Reset the temperature and check for accuracy. Repeat if necessary.	<u>NOTE:</u> ***Before calibrating the Thermostat, ensure that the griddle sensing bulb is placed within the small "V" tube welded directly to the bottom of the griddle plate, pushed about halfway back. The larger piece of angle iron is for flame diffusion, not for placement of the sensing bulb.***

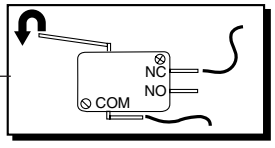
GRILL ASSEMBLY

ELECTRICAL SCHEMATIC:





*Power is supplied to the igniter & thermal valve through the "common" and "NC" (normally closed) contacts of the switch



649FIG09.EPS

GRILL ASSEMBLY

PARTS LIST:

ITEM #	*PART #*	*DESCRIPTION*
1	90254-02	GRILL COVER W/ PULL HANDLE
2	90192-03	GRILL FRONT TRIM
3	12148	CAST IRON GRATE
4	90262-01	BRIQUETTE TRAY ASSEMBLY
5	12134	GRILL U-BURNER
6	90042	GRILL BOX ASSEMBLY
7	13073	THERMAL VALVE
8	90045-02	GRILL TUBING
9	16009-01	IGNITER
10	18165	PIPE PLUG
11	13005-48	ORIFICE HOOD-NAT. GAS (#48 DMS) ORIFICE PIN-L.P. GAS (#55 DMS) *(INTEGRAL TO THERMAL VALVE)*
12	16001	MICROSWITCH
13	13068	SIMMER VALVE-STANDARD
14	18030	ELBOW
15	15109	BOLT / GASKET
16	90260	CAM - GRILL SWITCH
17	14006-PL	BEZEL
18	14130	GRILL KNOB
19	16077	FIBERGLASS SLEEVE
20	16006	TERMINAL BLOCK
21	16212	POWER CORD - RANGES
22	15112	SPEED CLIP - CAM - GRILL SWITCH
23	18204-01	GRILL COVER HANDLE
	15139	GRILL COVER HANDLE SCREW (2)
24	18077-2	FERRULE 3/8
25	18077-1	COMPRESSION NUT 3/8

GRILL TROUBLESHOOTING

PROBLEM AREA:	WHAT TO DO:	USEFUL NOTES:
Grill will not operate	<u>CHECK</u> 1) the Electrical / Gas Supply as outlined in the General Instruction section. 2) Remove Grill racks and the radiant tray- visually check for igniter breakage 3) Remove Valve Panel (see General instructions and note removal of "Red" screw behind control knob- *not on all units*) ? 4) 120 V supplied to "C"(common) terminal of Valve Switch? 5) Disconnect power, Remove wire from "NC"(normally closed) terminal & check for continuity between "C" and "NC" when valve is rotated to the "ON" position. If none is, switch positioned so that the tab on the valve stem activates the switch when the knob is in "OFF" (thus de-energizing to NC contact) ? Test the switch manually, if non-operational, remove / replace. 6) If switch is OK, Remove the wires from the Thermal Valve and check for continuity between the two (2) terminals on the face of the valve. If none, remove / replace. 7) If the Thermal Valve is OK, Remove the wires from the Grill Igniter and check the igniter leads for continuity. If none, remove / replace igniter. 8) If the Igniter is OK, Check the Neutral Return Wire for continuity to the neutral (white) wire of the power supply cord.	<u>NOTE:</u> *-Ensure at the supply source that the live and neutral wires are not reversed (If they are, this would not be covered under warranty)*
Grill still will not operate, (Electrically operational - Steps 1-8 OK)	1) Verify Gas supply to the unit, Loosen tubing supplying gas from the manual "on-off" valve to the Thermal Valve at the Thermal Valve. Quickly turn manual valve On, then Off and listen closely for the sound of flowing gas. If gas is not flowing, shut off gas supply, and check the tubing for blockage.	

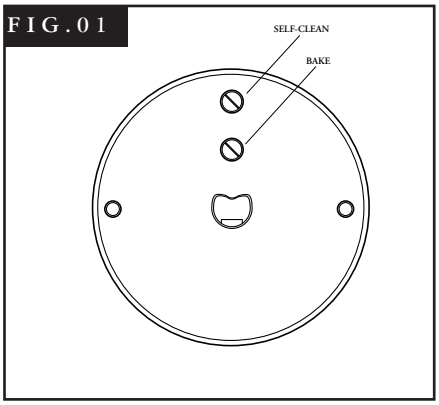
GRILL TROUBLESHOOTING

PROBLEM AREA:	WHAT TO DO:	USEFUL NOTES:
(Cont'd)-**Grill still will not operate, (Electrically operational Steps 1-8 OK)**	If dirt or other foreign matter is blocking gas flow, then the supply line should be disconnected and the line purged. This procedure is not covered under warranty. 2) If gas is present through the Manual Valve, to the Thermal Valve, and Electrical continuity of the valve exists per Step 6) (previous section), remove and visually check the valve orifice for blockage. If none exists, remove / replace Thermal Valve	
Low Flame / Heat from Grill Burner	<u>CHECK</u> 1) Gas pressure and supply as outlined in the "General" section. 2) If natural gas, ensure the orifice hood is not tightened down onto the L.P. jet nested within the Thermal Valve. 3) Adjust the air shutter closed until the flame is yellow, then open slightly until the yellow disappears.	
Too much Heat given off by Grill Burner when in "LOW" position.	1) Adjust center simmer screw per Installation Instructions. (This procedure is Installer related and not covered under warranty)	

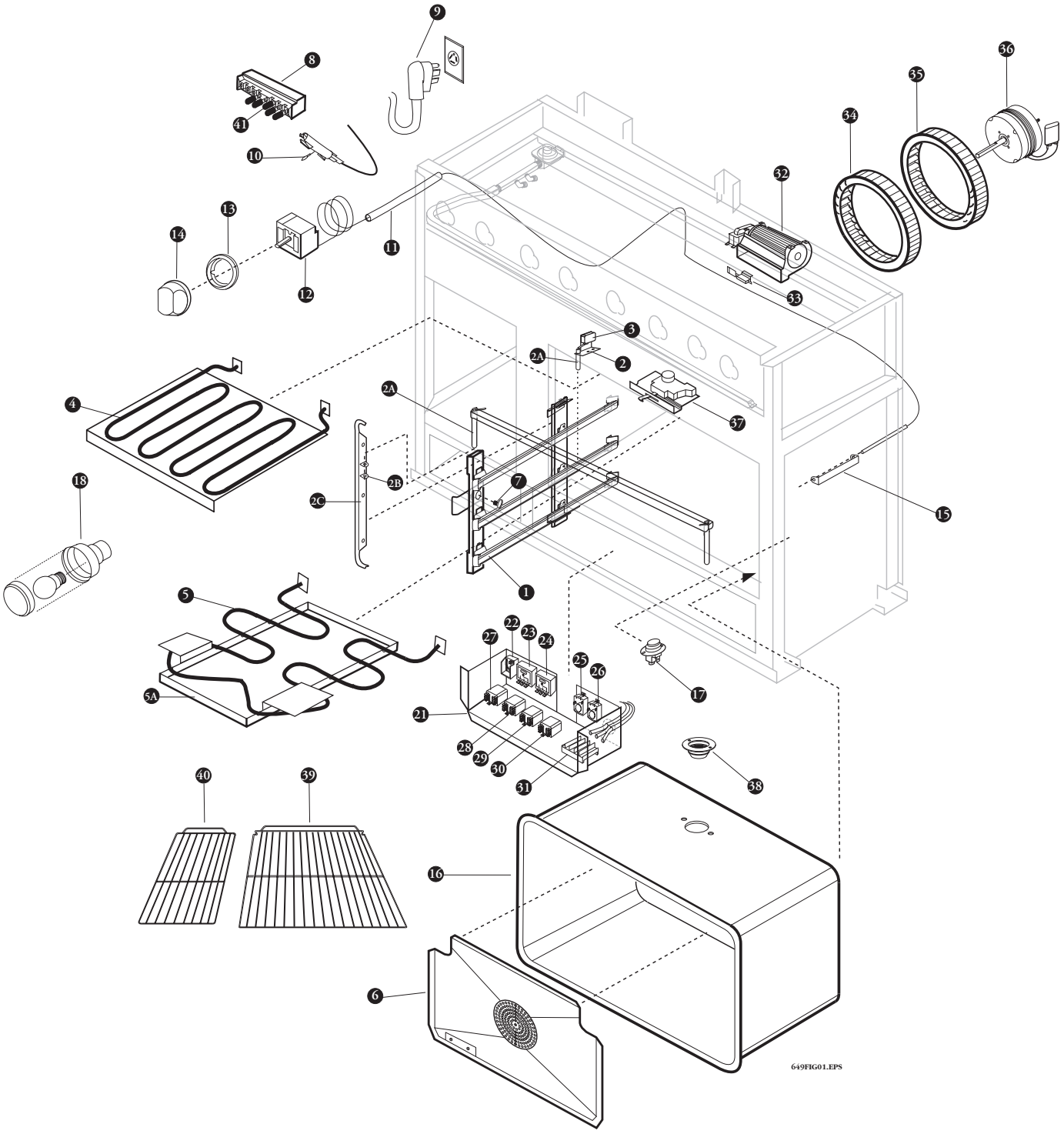
CALIBRATION SCREWS:

There are two screws that calibrate the self-clean and bake. -See fig.01 on the right, to adjust the calibration of the self-clean and bake turn each screw independently clockwise to increase and counterclockwise to decrease. Before beginning calibration make sure you use an adequate thermometer (such as a mercury thermometer).

FIG.01



27” OVEN PARTS



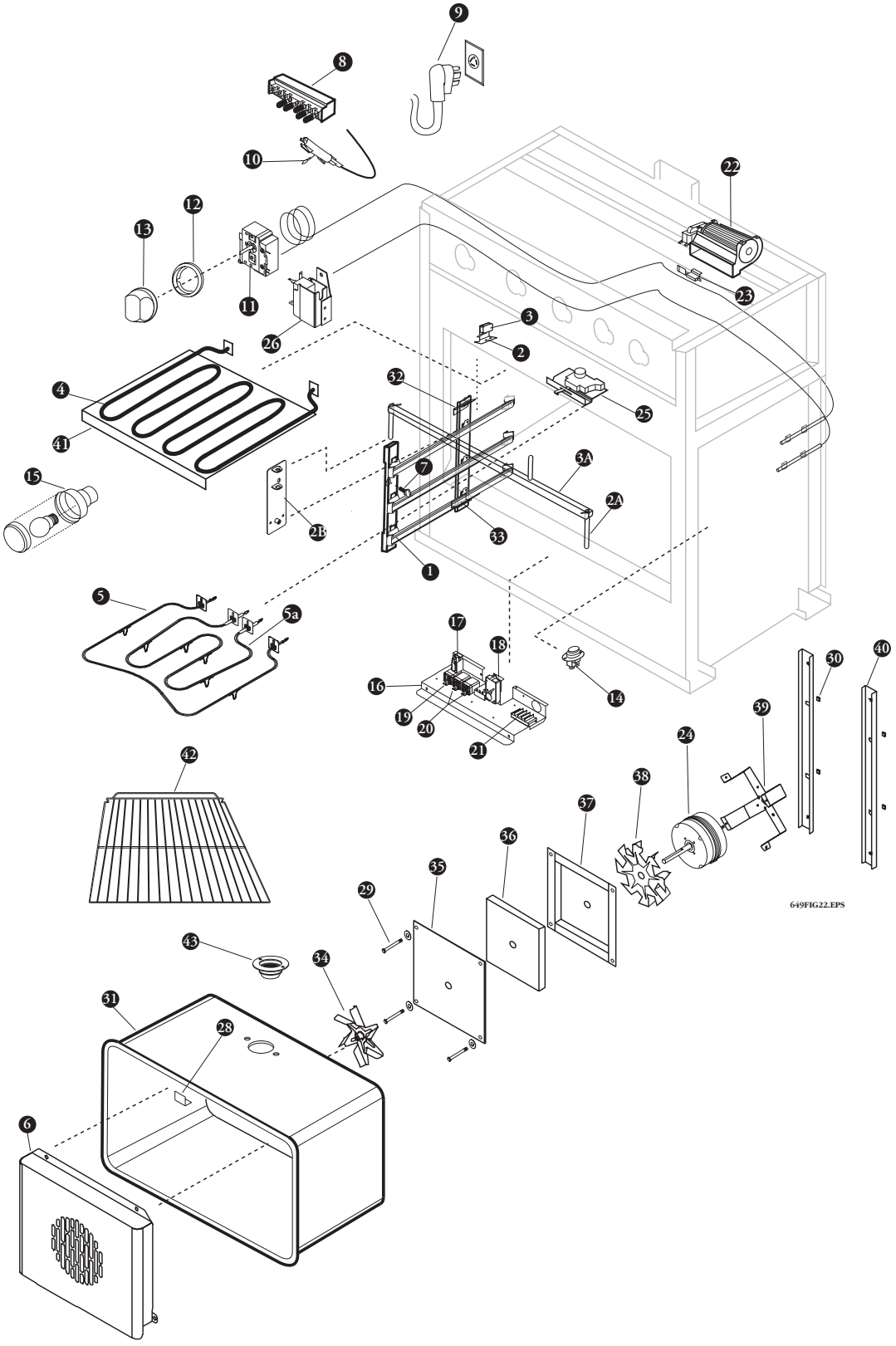
27" OVEN PARTLIST

PARTS LIST:

ITEM #	*PART #*	*DESCRIPTION*
1	90947-01	SLIDE RACK SUPPORT WELD ASS'Y (L/H)
	90947-02	***SLIDE RACK SUPPORT WELD ASS'Y (R/H)***
2	90484	BRACKET MICROSWITCH - INTERLOCK
2A	***90459***	***PUSH ROD 3/8"- INTERLOCK***
2B	90408	PUSH ROD BRACKET - INTERLOCK
2C	***90527-01***	***EDGE GUARD (L/H)***
	90527-02	EDGE GUARD (R/H)
3	***16001***	***MICROSWITCH - INTERLOCK***
3A	91162	PUSH ROD SWITCH - INTERLOCK
4	***16028-2***	***BROIL ELEMENT 4,000 WATT***
5	16030-2	BAKE ELEMENT 6,000 WATT
5A	***90515***	***BAKE ELEMENT SUPPORT ASS'Y***
6	90305-PC	CONVECTION BAFFLE
7	***15226***	***THUMBSCREW - RACK SUPPORT***
8	16032-1	5 PUSH-BUTTON SELECTOR SWITCH
9	***16212***	***POWER CORD***
10	16046-02	INDICATOR LIGHT
11	***16077***	***FIBERGLASS SLEEVE***
12	13037	THERMOSTAT KS-HT
13	***14006-PL***	***BEZEL***
14	14126-01	KNOB OVEN - SELF CLEAN
15	***50135***	***CAPILLARY BULB SUPPORT***
16	90392 - PC	27" OVEN TANK ASSEMBLY
17	***13043***	***HIGH TEMP CUT-OUT***
18	16242	OVEN LAMP ASSEMBLY
*	***90478***	***GUIDE CENTER DRIP PAN***
*	90237	GUIDE DRIP PAN
21	***50151-8***	***ELECTRICAL CONTROL BOX***
22	13038	50% PULSER
23	***16044-1***	***12" OVEN TIMER-PROOF***
24	16044-2	27" OVEN TIMER-CLEAN
25	***13039***	***12" OVEN HOT WIRE RELAY***
26	13039	27" OVEN HOT WIRE RELAY
27	***16045-2***	***FLANGE MOUNT RELAY DPDT***
28	16045-2	FLANGE MOUNT RELAY DPDT
29	***16045-2***	***FLANGE MOUNT RELAY DPDT***
30	16045-3	FLANGE MOUNT RELAY TPDT
31	***16049***	***TERMINAL BLOCK***
32	50166	BLOWER MOTOR
33	***16038***	***AIR INTERLOCK SWITCH***
34	16148	WHEEL BLOWER
35	***16155***	***WHEEL COOLING RVCR 8712-100 HS***
36	16147	MOTOR - CONVECTION RD
37	***16031***	***MOTORIZED DOOR LOCK***
38	12063	CATALYST
39	***19048***	***OVEN RACK LARGE OVEN***
40	19003-02	OVEN RACK SMALL OVEN
41	***14051-01***	***BUTTON PUSH***
*	14052	OVEN DOOR GASKET

* ITEMS NOT PICTURED

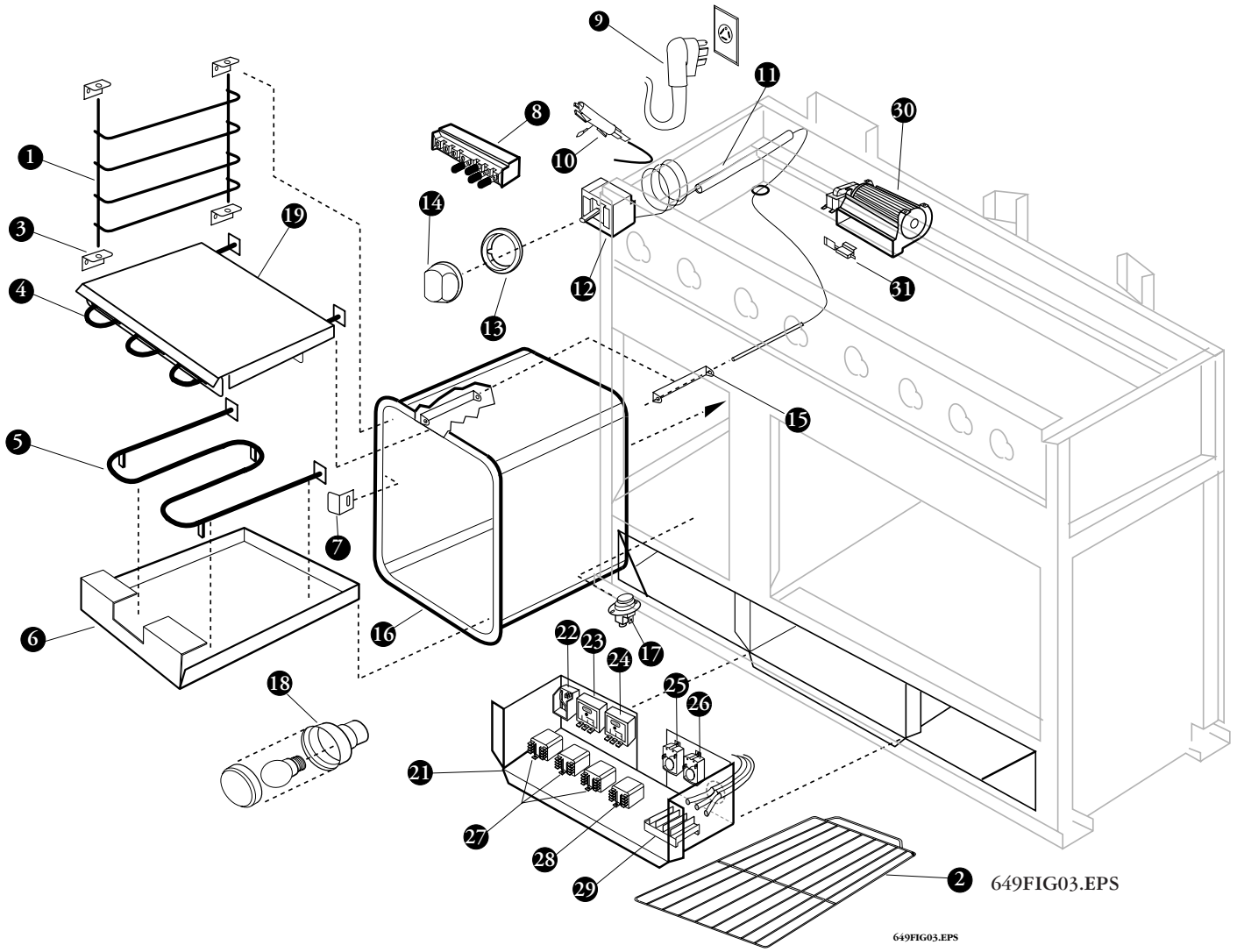
RD-304 24" OVEN PARTS



RD-304 24" OVEN

PARTS LIST:

ITEM #	*PART #*	*DESCRIPTION*
1	90407-01	SLIDE RACK SUPPORT WELD ASS'Y (L/H)
	90407-02	SLIDE RACK SUPPORT WELD ASS'Y (R/H)
2	90754	BRACKET MICROSWITCH - INTERLOCK
2A	90459	PUSH ROD 3/8"- INTERLOCK
2B	90525-01	EDGE GUARD (L/H)
	90527-02	EDGE GUARD (R/H)
3	90529	MICROSWITCH - W/A INTERLOCK
3A	90728	LIFT CHANNEL - INTERLOCK
4	16248	BROIL ELEMENT
5	16158	BAKE ELEMENT
5A	16265	BAKE ELEMENT INNER
6	90750-PC	CONVECTION BAFFLE
7	15226	THUMBSCREW - RACK SUPPORT
8	16032-1	5 PUSH-BUTTON SELECTOR SWITCH
9	16212	POWER CORD
10	16046-02	INDICATOR LIGHT
11	13234	T-STAT MAIN OVEN E/R 35
12	14006-PL	BEZEL
13	14190	KNOB OVEN - SELF CLEAN
14	13043	HI-TEMP CUT-OUT
15	16242	OVEN LAMP ASSEMBLY
16	90751	ELECTRICAL CONTROL BOX ASSEMBLY
17	13038	50% PULSER
18	16044-2	OVEN TIMER - CLEAN
19	16045-2	FLANGE MOUNT RELAY DPDT
20	16045-3	FLANGE MOUNT RELAY TPDT
21	16049	TERMINAL BLOCK
22	90165	CONVECTION MOTOR ASSEMBLY
23	16038	AIR INTERLOCK SWITCH
24	50166-01	BLOWER MOTOR
25	16247	MOTORIZED DOOR LOCK
26	13233	T-STAT E/R 25
27	14052	OVEN DOOR GASKET ***(ITEM NOT PICTURED)***
28	90802	CLIP OVEN SEAM
29	15003-26	HEX BOLT 1/4-20 X 3.5 SS
30	15029	NUT W/RET. 1/4-20
31	90759-PC	OVEN TANK W/A
32	90404-01	BRACKET INTERLOCK UPPER L/H
33	90404-02	BRACKET INTERLOCK UPPER R/H
34	16130	CONVECTION BLADE
35	90171	MOTOR COVER PAD
36	90170	MOTOR INSULATION PAD
37	90285	MOTOR PAD
38	16053	MOTOR COOLING BLADE
39	90276	BRACKET MOTOR
40	90771	BRACKET CHANNEL
41	90789	REFLECTOR
42	19048-01	OVEN RACK RD-304
43	12063	CATALYST



649FIG03.EPS

12” OVEN

PARTS LIST:

ITEM #	*PART #*	*DESCRIPTION*
1	19004-1	12” OVEN RACK SUPPORT
2	19003-2	12” OVEN RACK
*	50086	HEAT ELEMENT CLIP
3	50087-1	BRACKET - RACK
4	16029-02	BROIL ELEMENT 3,600 WATTS
5	16027-2	BAKE ELEMENT 3,700 WATTS
6	50011-01-PC	OVEN BOTTOM PAN
7	50096	CLIP- OVEN SEAM
8	16032-2	4 PUSH-BUTTON SELECTOR SWITCH
9	16212	POWER CORD
10	16046-02	INDICATOR LIGHT
11	16077	FIBERGLASS SLEEVE
12	13037	THERMOSTAT KS-HT
13	14006-PL	BEZEL
14	14126-02	KNOB 12” OVEN
15	50135	CAPILLARY BULB SUPPORT
16	50058-PC	12” OVEN TANK ASSEMBLY
17	13043	HIGH TEMP CUT-OUT
18	16242	OVEN LAMP ASSEMBLY
19	50018-2	REFLECTOR
*	14053	OVEN DOOR GASKET
21	50151-8	ELECTRICAL CONTROL BOX
22	13038	50% PULSER
23	16044-1	12” OVEN TIMER-PROOF
24	16044-2	27” OVEN TIMER-CLEAN
25	13039	12” OVEN HOT WIRE RELAY
26	13039	27” OVEN HOT WIRE RELAY
27	16045-2	FLANGE MOUNT RELAY DPDT
28	*16045-3*	FLANGE MOUNT RELAY TPDT
29	16049	TERMINAL BLOCK
30	50166	BLOWER MOTOR
31	16038	AIR INTERLOCK SWITCH

* = ITEMS NOT PICTURED

HARDWARE

PARTS LIST:

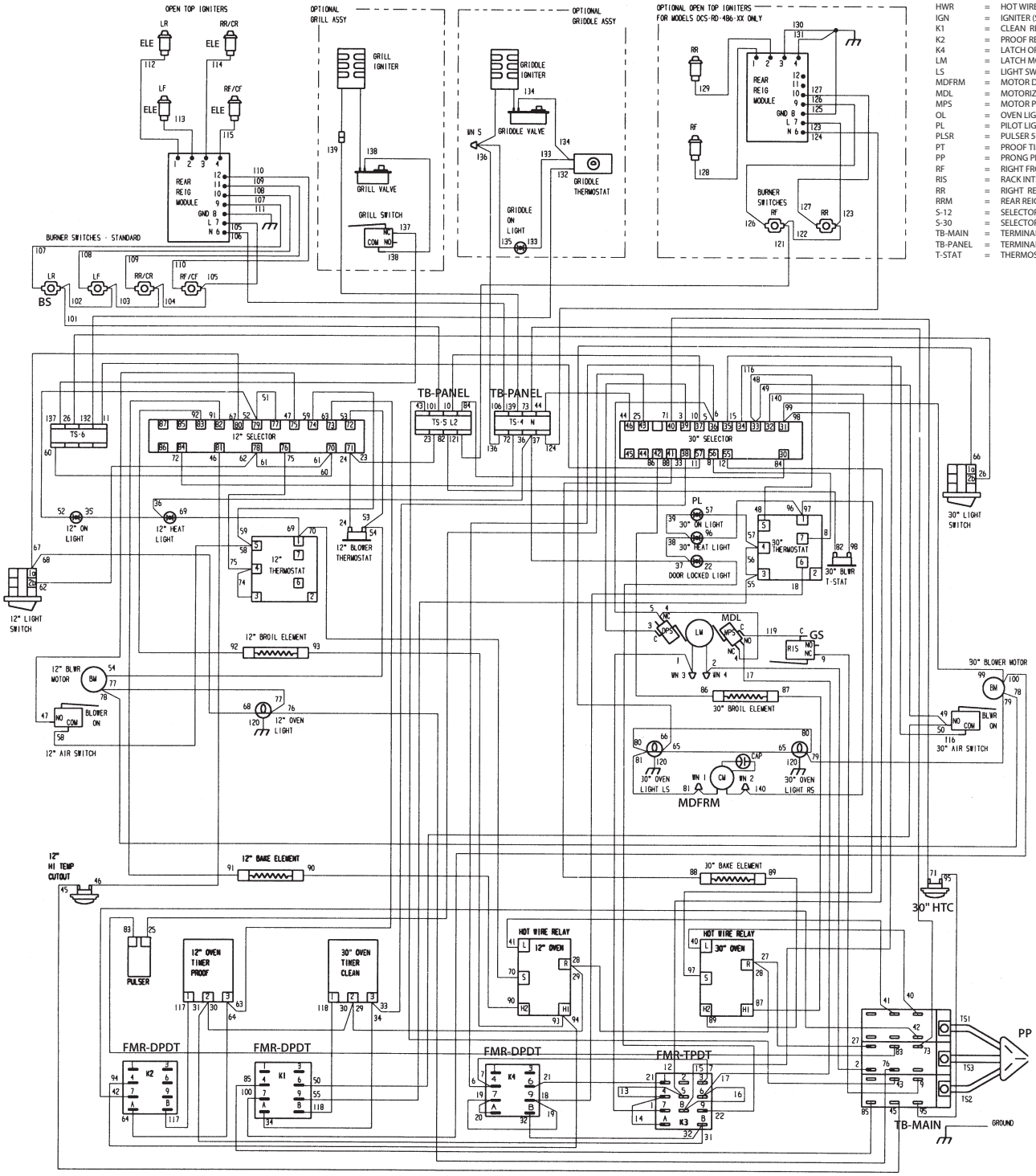
ITEM #	*PART #*	*DESCRIPTION*
1	15002-41 (4)	FRONT PANEL SCREWS
2	15001-09	KICK PANEL / SIDE PANEL SCREWS
3	15001-29	KNOB / BEZEL
4	15029-02	VALVE PANEL NUT
5	15002-32	LEVELING SCREW
6	15002-41	DOOR TOP - SCREW
7	15001-39	BOLT - DOOR HANDLE
8	15001-04	HARDWARE BAG B/GUARD, I-TRIM SCREW
9	15001-05	HARDWARE BAG B/GUARD, I-TRIM SCREW
10	15003-16	HARDWARE BAG B/GUARD HEX BOLT ZN
11	15104	HARDWARE BAG B/GUARD WASHER ZN
12	15002-26	VENTURI BOLT
13	15109	VALVE SCREW / PLUG / WASHER
14	15003-01	MANIFOLD BOLT HEX
15	15001-41	SELECTOR SCREW
16	15002-04	IGNITER SCREW GRIDDLE
17	15021-07	IGNITER KEPS NUT GRIDDLE
18	15001-22	GRIDDLE BURNER SCREW
19	15001-03	RELAY SCREW
20	90417	BAFFLE SCREW SPACER
21	15001-33	BAFFLE SCREW
22	15117	THUMB SCREW RACK SUPPORT
23	15003-26	MOTOR COVER PAD BOLT HEX
24	15029	BRACKET CHANNEL NUT W/RETAINER
25	15001-23	ELEMENT SCREW

RD48 WIRING DIAGRAM

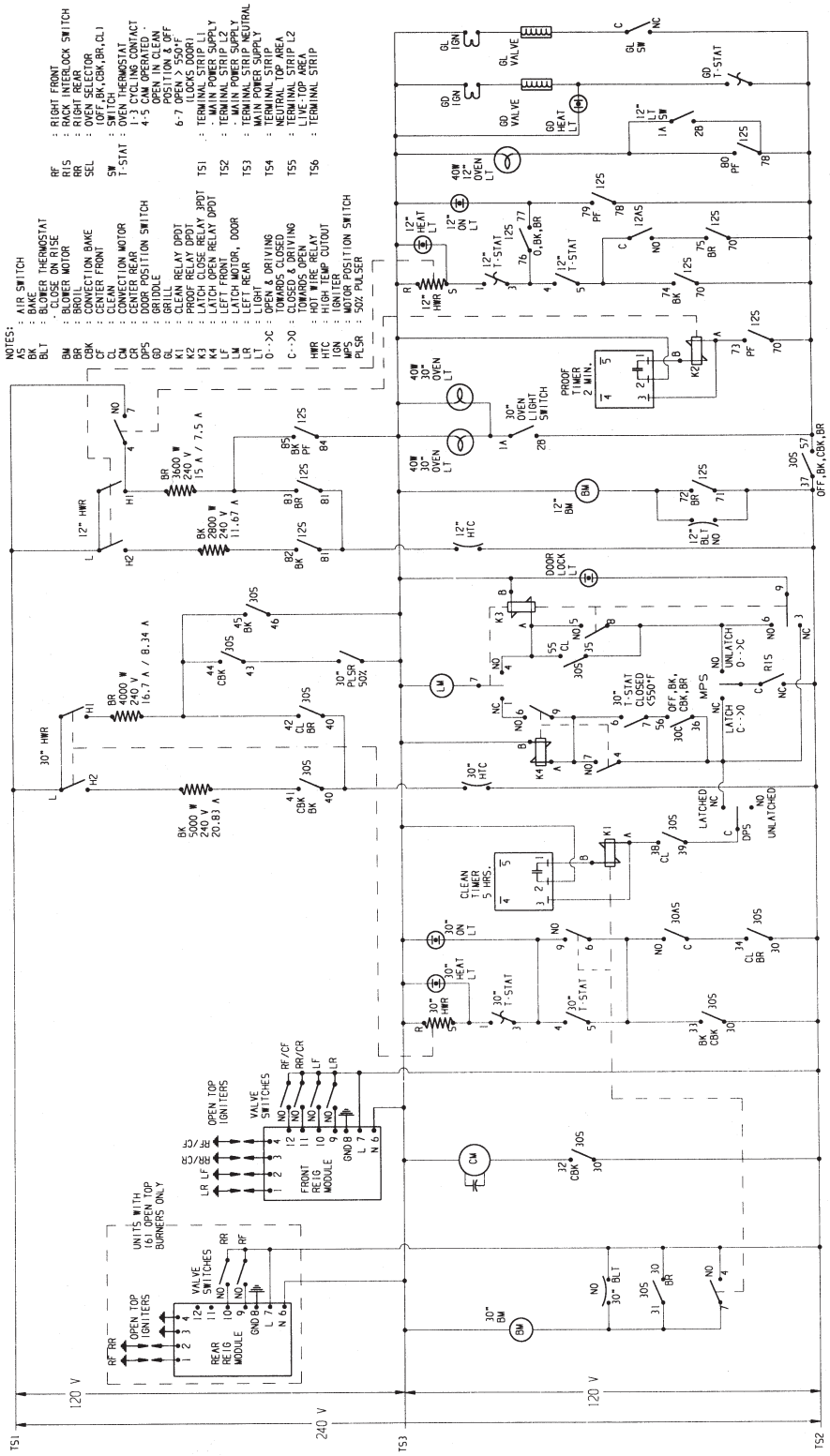
NOTES: (many of the parts have the name of the part instead of the abbreviation)

AIS	=	AIR INTERLOCK SWITCH (16038)
BK-12	=	BAKE ELEMENT 12 (16027-2)
BK-30	=	BAKE ELEMENT 30 (16030-2)
BM	=	BLOWER MOTOR (50166)
BLT	=	BLOWER THERMOSTAT (16041)

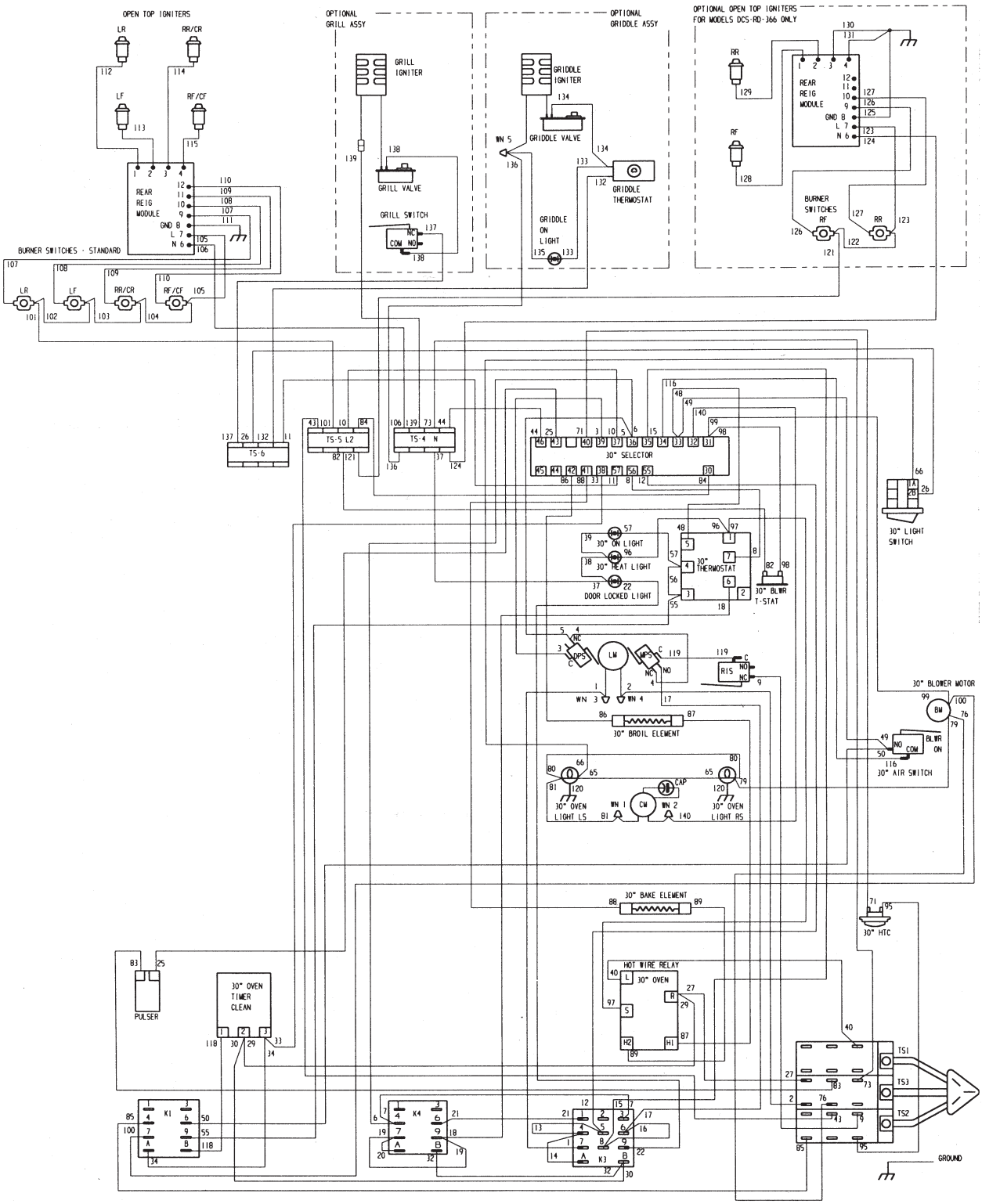
BR-12	=	BROIL ELEMENT 12 OVEN (16029-2)
BR-30	=	BROIL ELEMENT 30 (16028-2)
BS	=	BURNER SWITCHES (13071)
CF	=	CENTER FRONT
CM	=	CONVECTION MOTOR
CR	=	CENTER REAR
CT	=	CLEAN TIMER (16044-2)
DPS	=	COOR POSTION SWITCH
ELE	=	ELECTRODE (12093)
FMR-DPDT	=	FLANGE MOUNT RELAY DPDT (16045-2)
FMR-TPDT	=	FLANGE MOUNT RELAY TPDT (16045-3)
GV	=	GRIDDLE & GRILL VALVE (13073)
GT	=	GRIDDLE THERMOSTAT (13310)
GS	=	GRILL SWITCH (16001)
HTC	=	HI-TEMP CUT-OUT (13043)
HWR	=	HOT WIRE RELAY (13039)
IGN	=	IGNITER (SMALL) (16009-1)
K1	=	CLEAN REALY DPDT
K2	=	PROOF RELAY DPDT
K4	=	LATCH OPEN RELAY DPDT
LM	=	LATCH MOTOR, DOOR
LS	=	LIGHT SWITCH (16127)
MDFRM	=	MOTOR DUAL FUEL RD MODEL(16147)
MDL	=	MOTORIZED DOOR LOCK (16031)
MPS	=	MOTOR POSITION SWITCH
OL	=	OVEN LIGHT (16242)
PL	=	PILOT LIGHT (16046-02)
PLSR	=	PULSER 50% (13038)
PT	=	PROOF TIMER (16044-1)
PP	=	PRONG PLUG 50A (16212)
RF	=	RIGHT FRONT
RIS	=	RACK INTERLOCK SWITCH
RR	=	RIGHT REAR
RRM	=	REAR REIG MODULE (13236)
S-12	=	SELECTOR 12" (16032-2)
S-30	=	SELECTOR 30" (16032-1)
TB-MAIN	=	TERMINAL BLOCK – MAIN (16049)
TB-PANEL	=	TERMINAL BLOCK – PANEL (16006)
T-STAT	=	THERMOSTAT KS-HT (16032-2)



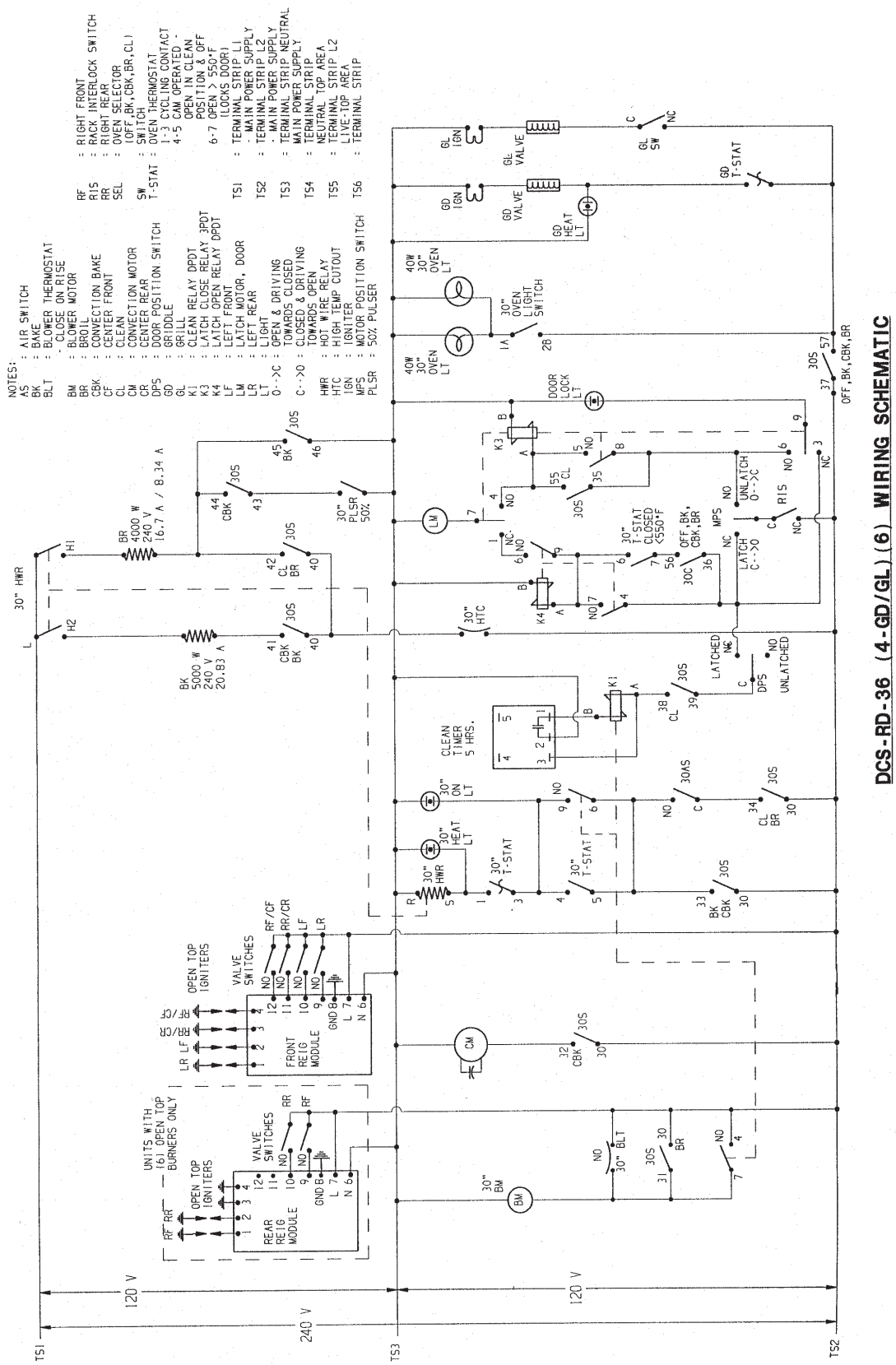
RD 48 SCHEMATIC



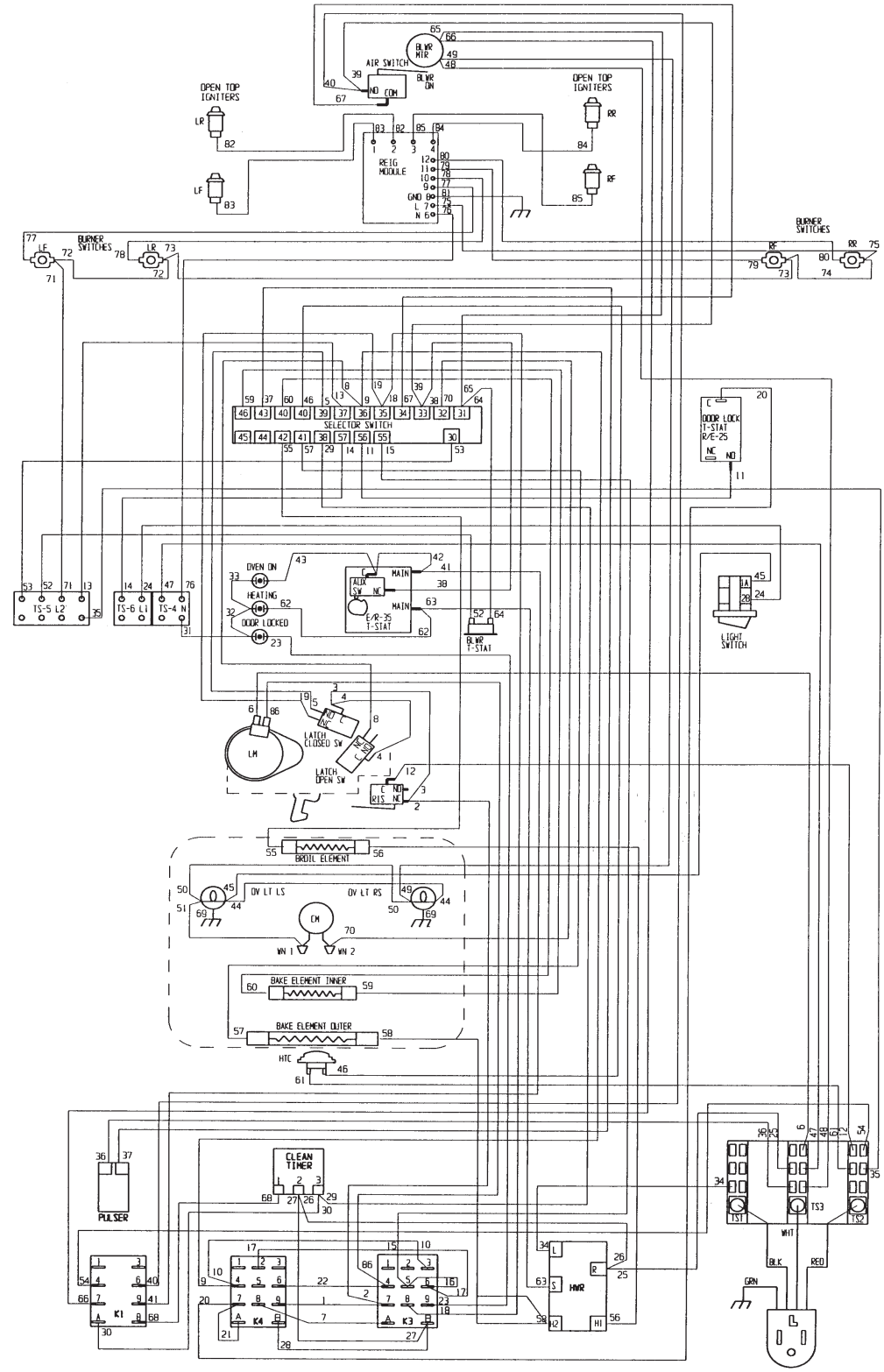
RD 36 WIRING DIAGRAM



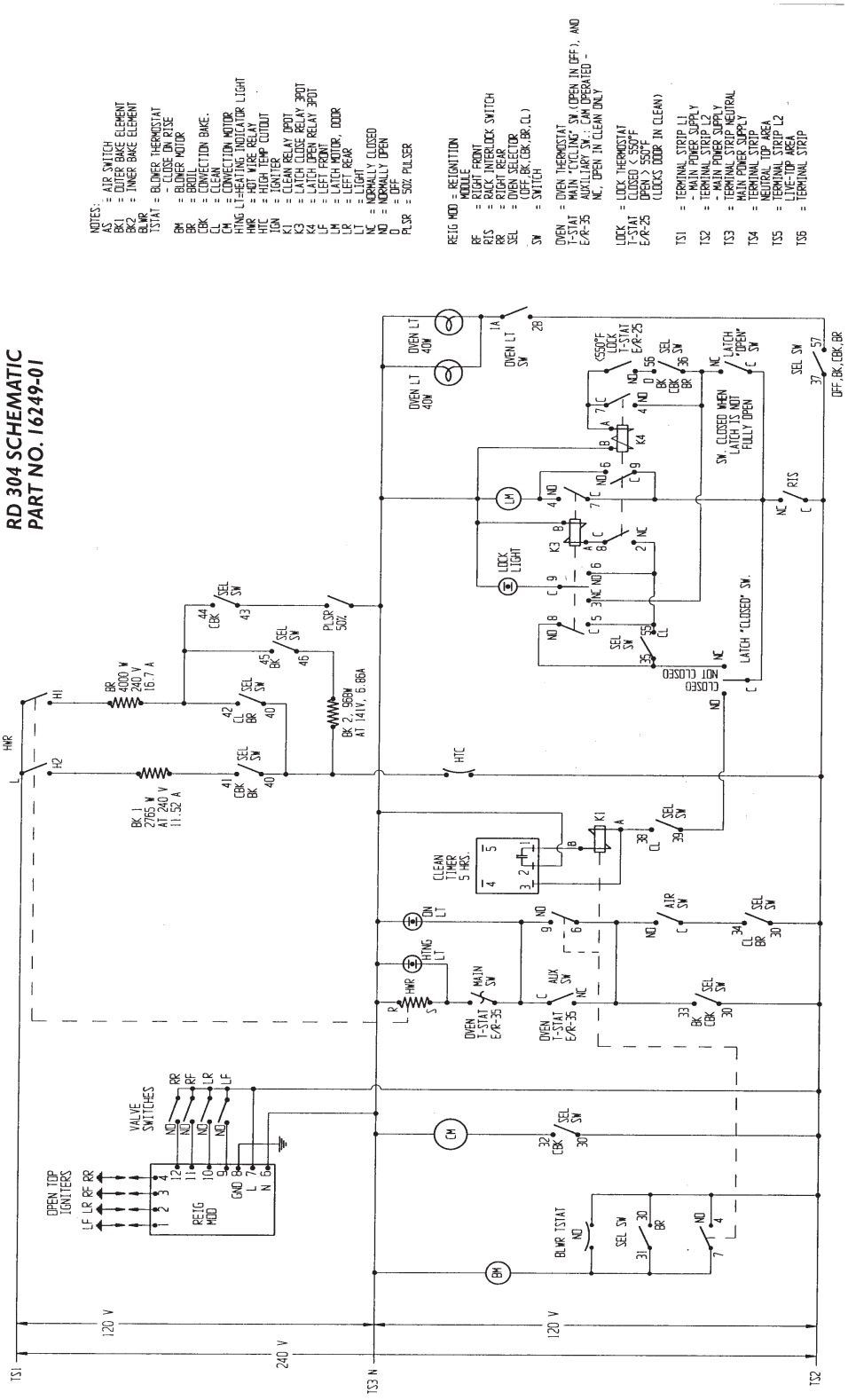
DCS-RD-36 (4-GD/GL) (6) WIRE DIAGRAM Part No. 17111-W Rev. 1


NOTES:
AS : AIR SWITCH
BK : BAKE
BLT : BLOWER THERMOSTAT - CLOSE ON RISE
BM : BLOWER MOTOR
BR : BROIL
CBK : CONVECTION BAKE
CF : CENTER FRONT
CL : CLEAN
CM : CONVECTION MOTOR
CR : CENTER REAR
DPS : DOOR POSITION SWITCH
GD : GRIDDLE
GL : GRILL
K1 : CLEAN RELAY DPDT
K3 : LATCH CLOSE RELAY 3PDT
K4 : LATCH OPEN RELAY DPDT
LF : LEFT FRONT
LM : LATCH MOTOR, DOOR
LR : LEFT REAR
LT : LIGHT
O-->C : OPEN & DRIVING TOWARDS CLOSED
C-->O : CLOSED & DRIVING TOWARDS OPEN
HWR : HOT WIRE RELAY
HTC : HIGH TEMP CUTOUT
IGN : IGNITER
MPS : MOTOR POSITION SWITCH
PLSR : 50% PULSER
RF : RIGHT FRONT
RIS : RACK INTERLOCK SWITCH
RR : RIGHT REAR
SEL : OVEN SELECTOR (OFF,BK,CBK,BR,CL)
SW T-STAT : OVEN THERMOSTAT SWITCH
1-3 CYCLING CONTACT
4-5 CAM OPERATED - OPEN IN CLEAN POSITION & OFF
6-7 OPEN > 550°F (LOCKS DOOR)
TS1 : TERMINAL STRIP L1 - MAIN POWER SUPPLY
TS2 : TERMINAL STRIP L2 - MAIN POWER SUPPLY
TS3 : TERMINAL STRIP NEUTRAL MAIN POWER SUPPLY
TS4 : TERMINAL STRIP NEUTRAL TOP AREA
TS5 : TERMINAL STRIP L2 LIVE-TOP AREA
TS6 : TERMINAL STRIP
DCS-RD-36 (4-GD/GL)(6) WIRING SCHEMATIC
30" HWR
BR 4000 W 240 V 16.7 A / 8.34 A
BK 5000 W 240 V 20.83 A
30" HTC
CLEAN TIMER 5 HRS.
30" ON LT
30" HEAT LT
30" T-STAT
30" BM
30" BLT
30" PLSR 50%
30" OVEN LIGHT SWITCH
30" T-STAT CLOSED <550°F
40W 30" OVEN LT
DOOR LOCK LT
GL IGN
GL VALVE
GL SW
GD IGN
GD VALVE
GD HEAT LT
GD T-STAT
OFF,BK,CBK,BR
LATCH C-->O
UNLATCH O-->C
LATCHED
UNLATCHED
VALVE SWITCHES
OPEN TOP IGNITERS
FRONT REIG MODULE
REAR REIG MODULE
UNITS WITH 16) OPEN TOP BURNERS ONLY
120 V
240 V
TS1
TS2
TS3

RD 304 WIRING DIAGRAM



RD 304 SCHEMATIC



As product improvement is an ongoing process at DCS, we reserve the right to change specifications or design without notice.

Litho in USA 06-03
Part No. 10649 REV 4

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PERFECT HEAT.